Evergreen Reports

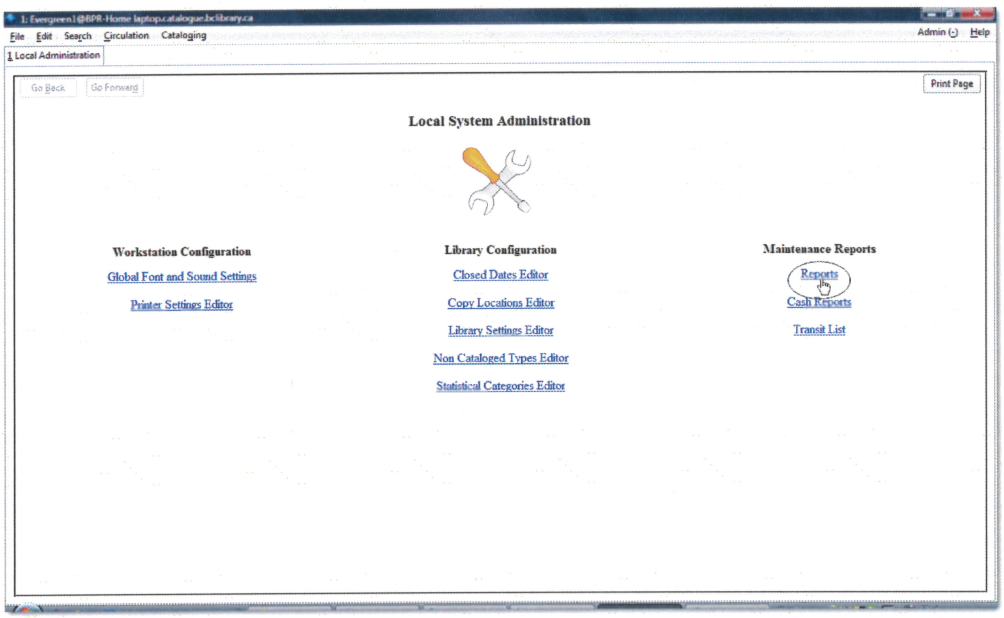
Introduction

The reports interface is in *Local System Administration* under *Reports*. Only users with Local System Administration permissions can create reports. Reports are created for the user's account. However, it is possible to share reports with other local system administrators in your library, other libraries in your federation, and the whole SITKA Consortium.

Evergreen has very powerful reporting functionality. It is possible to report on almost every field, in every table in the database. The reporting interface tries to make navigating the database structure easier by pointing at the main tables in the database.

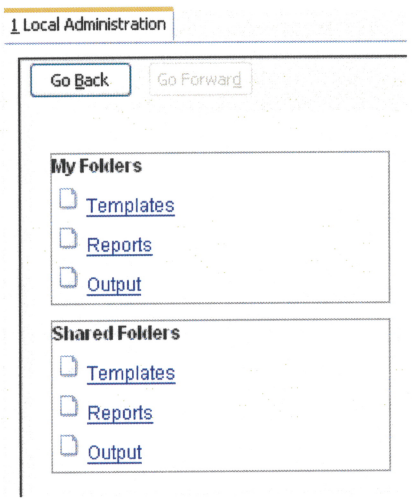
This lesson will demonstrate how to create a report in Evergreen by introducing you to the basic concepts of the reporting function. Once you understand how to navigate around the reports interface, you can start creating your own reports.

There are four aspects to creating a report in Evergreen: building a template, choosing a template, defining a report, and running a report to create output. Templates, reports and outputs all require use of a folder system. This lesson demonstrates folder creation and management, creating one template, defining and running a report based on that template, and viewing and manipulating output from that report.



Folders

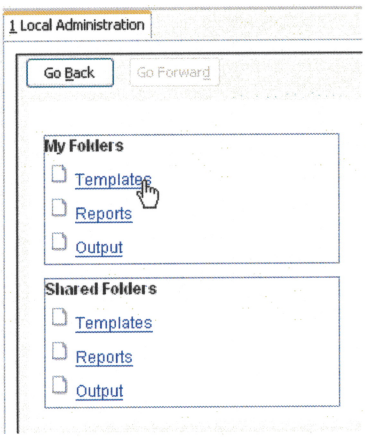
There are three main components to reports: templates, reports, and outputs. Each of these components must be stored in a folder. Folders can be private or shared. You can choose to share a folder with libraries that you share report permissions with, namely other people at your library, other libraries in your federation or with the whole SITKA Consortium. It is also possible to only share a subfolder.



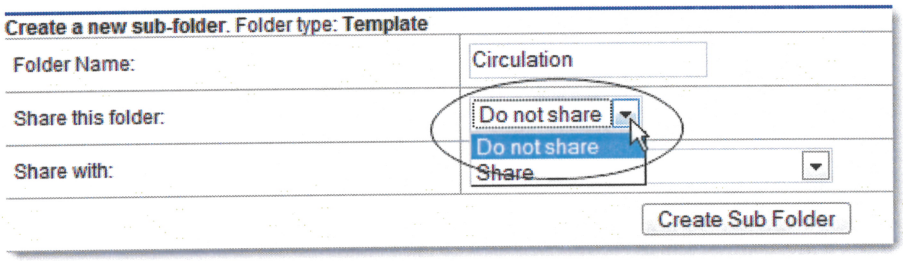
Creating folders

The steps for creating folders are similar for each reporting function. It is easier to create folders for templates, reports and output at the beginning, though it is possible to do it before each step. This example demonstrates creating a folder for a template.

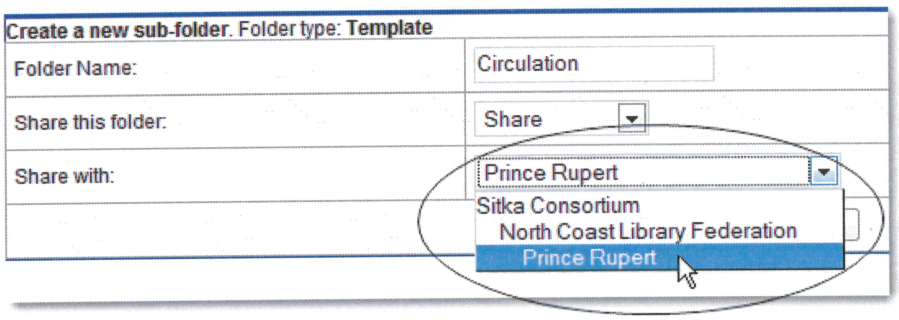
1. Click on *Templates* to create a sub-folder for templates.



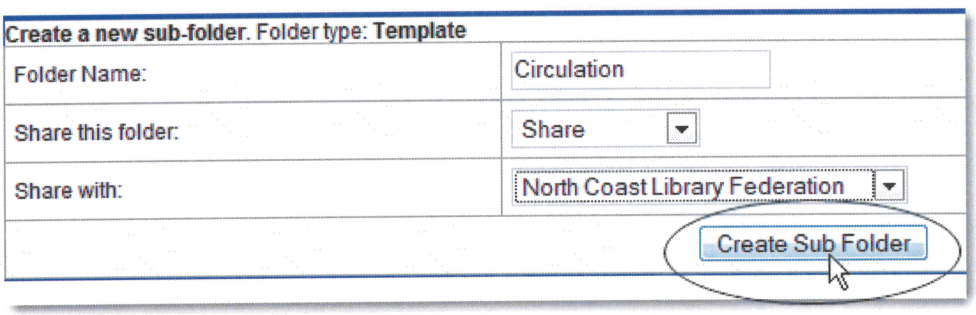
2. Name the sub-folder. Select *Share* or *Do not share* from the dropdown menu. .



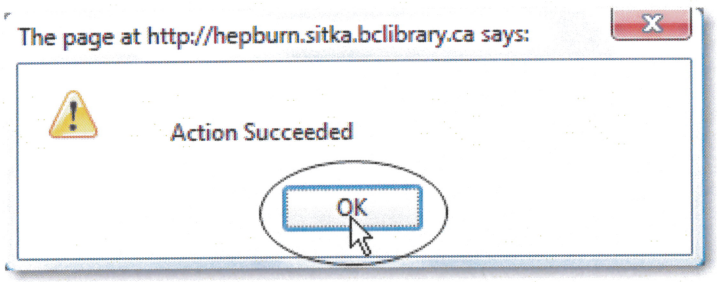
3. If you want to share your folder, select who you want to share this folder with from the dropdown menu.



4. Click *Create Sub Folder*.

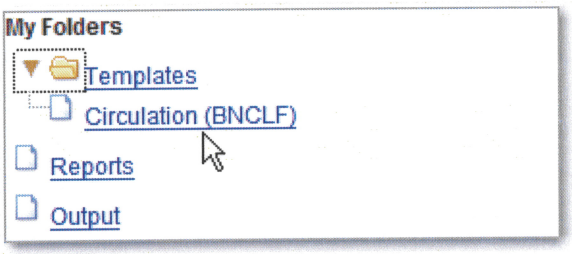


5. Click *OK*.

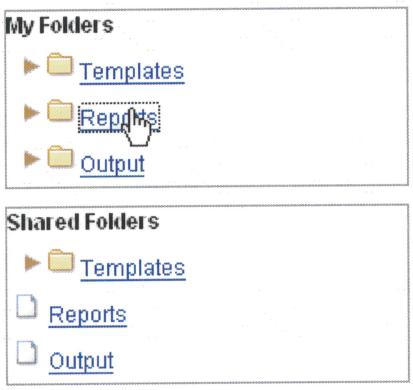


TIP

The folder you just created will now be visible under *My Folders*. Bracketed after the folder name is whom the folder is shared with. For example, *Circulation (BNCLF)* means that this folder is being shared with the North Coast Library Federation. If it is not a shared folder, there will be nothing after the folder name. Click on the arrow to the left of the folder to view sub-folders. You can create sub-folders for sub-folders.

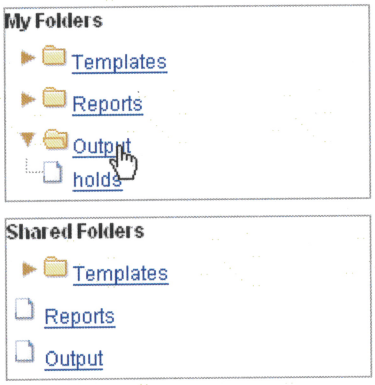


6. Next, create a folder for the report definition to be saved to. Click on *Reports*.



7. Follow steps 2-5 under **Creating a Folder**.

8. Finally, you need to create a folder for the report's output to be saved in. Click on *Output*.



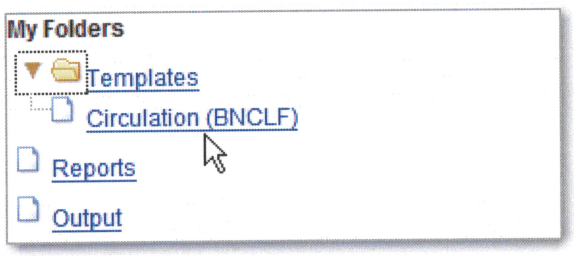
9. Follow steps 2-5 under **Creating a Folder.**

Managing folders

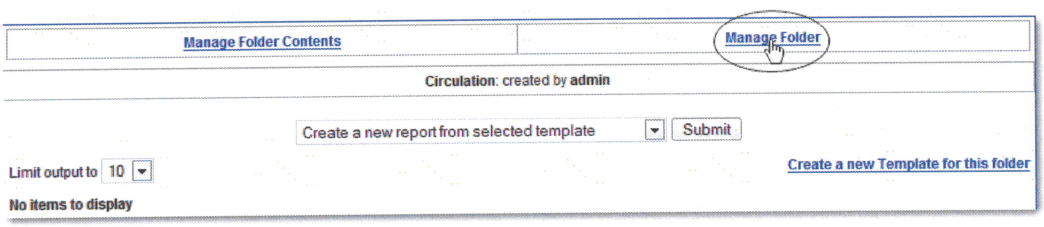
Once a folder has been created, you can change the name, delete it, create a new subfolder, share or unshare it. This example demonstrates changing a folder name; the other choices follow similar steps.

Changing a folder name

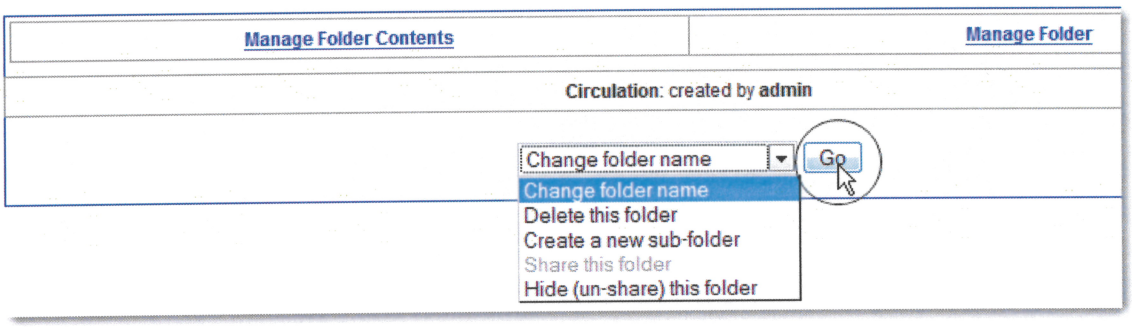
1. Click on the folder that you wish to rename.



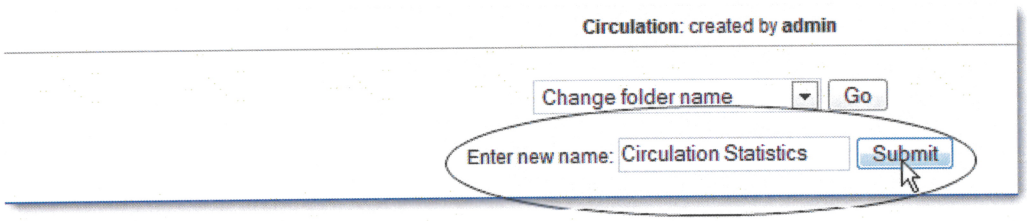
2. Click on *Manage Folder*.



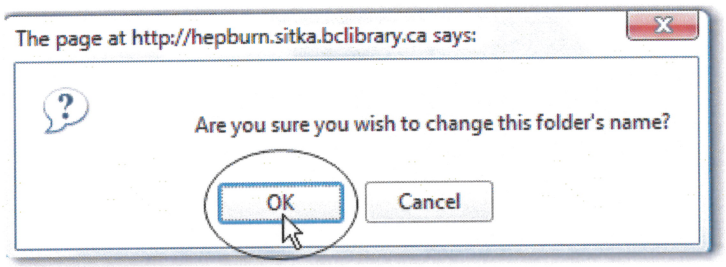
3. Select *Change folder name* from the dropdown menu and click *Go*.



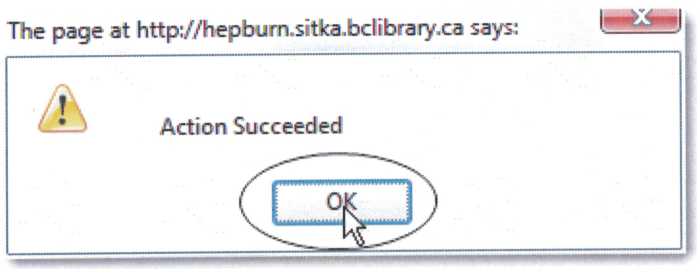
4. Enter the new name and click *Submit*.



5. Click *OK*.



6. You will get a confirmation box that the Action Succeeded. Click *OK*.



Creating a template

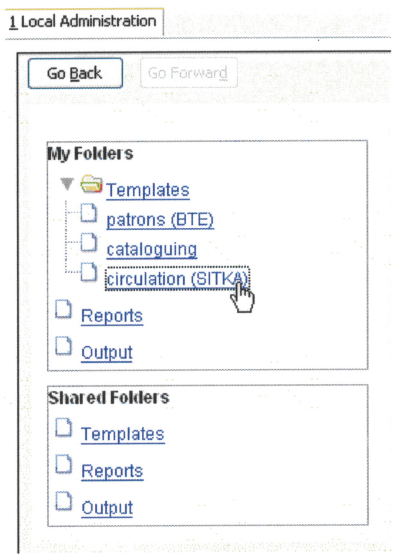
Once you have created a folder, the next step in building a report is to create a template from which to work. The use of templates enables you to run a report more than once, without building it anew every time, by changing definitions to suit current requirements. For example, you can create a shared template that reports on circulation at a given library. Then, other libraries can use your template and simply select their own library when they run the report.

It may take several tries to refine a report to give the output that you want. It can be useful to plan out your report on paper before getting started with the reporting tool. Group together related fields and try to identify the key fields that will help you select the correct *source*.

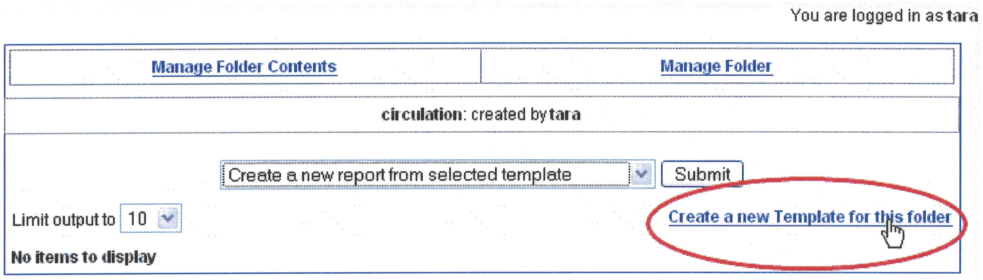
It may be useful to create complex queries in several steps. For example: First add all fields from the table at the highest source level. Run a report and check to see that you get results that seem reasonable. Then clone the report, add any filters on fields at that level and run another report. Then drill down to the next table and add any required fields. Run another report. Add any filters at that level. Run another report. Continue until you've drilled down to all the fields you need and added all the filters. This might seem time consuming and you will end up cloning your initial report several times. However, it will help you to check the correctness of your results, and will help to debug if you run into problems because you will know exactly what changes caused the problem. Also consider adding extra fields in the intermediate steps to help you check your results for correctness.

This example illustrates creating a template for circulation statistics. This is an example of the most basic template that you can create. The steps required to create a template are the same every time, but the tables chosen, how the data is transformed and displayed, and the filters used will vary from template to template.

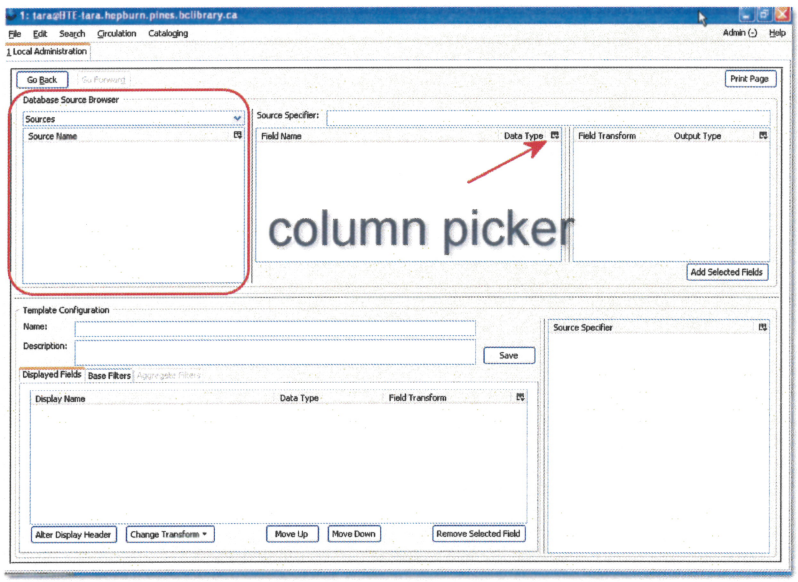
1. Click on the folder where you want the template to be saved.



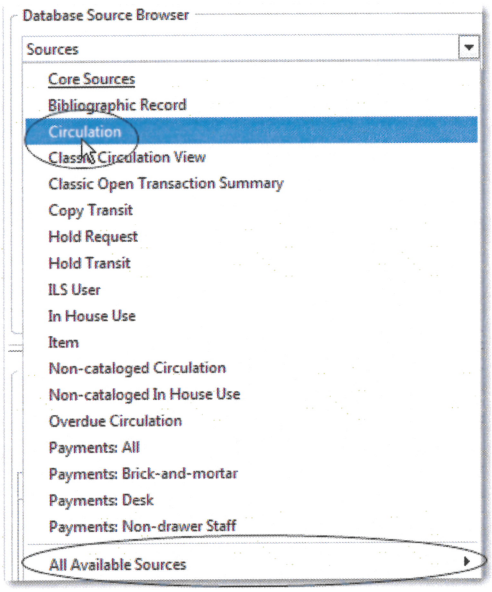
2. Click on *Create a new Template for this folder*.



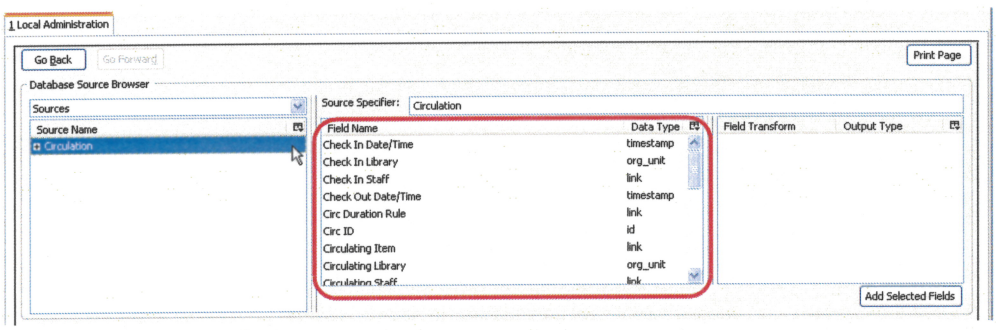
3. You can now see the reports interface. The top left hand pane is the *Database Source Browser*. This is the list of tables from which you can report on. Note that the column picker is available in all five panes.



4. Select *Circulation* in the *Sources* dropdown menu. Note that the *Core Sources* for reporting are listed first, however it is possible to access all available sources at the bottom of this dropdown menu.



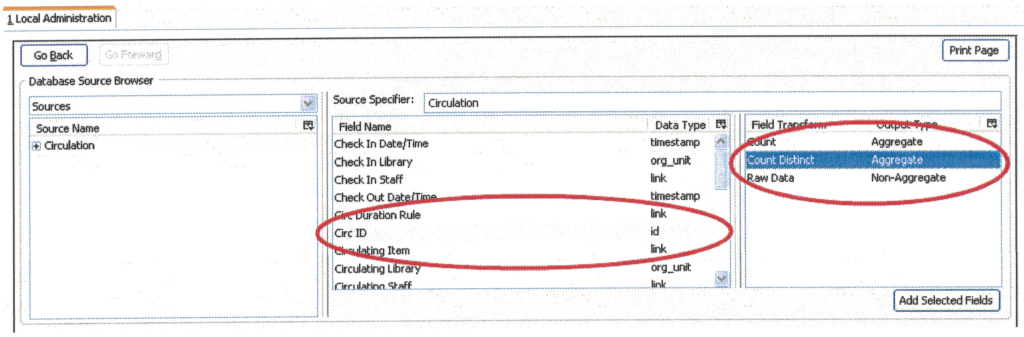
5. Click on *Circulation* to retrieve all the field names in the *Field Name* pane. Note that the *Source Specifier* (above the middle and right panes) shows the path that you took to get to the specific field.



TIP

You can only specify one source per template. If you try to change the source, you will undo everything you've done.

6. Select *Circ ID* in the middle *Field Name* pane, and *Count Distinct* from the right *Field Transform* pane. You are counting the number of circulations.



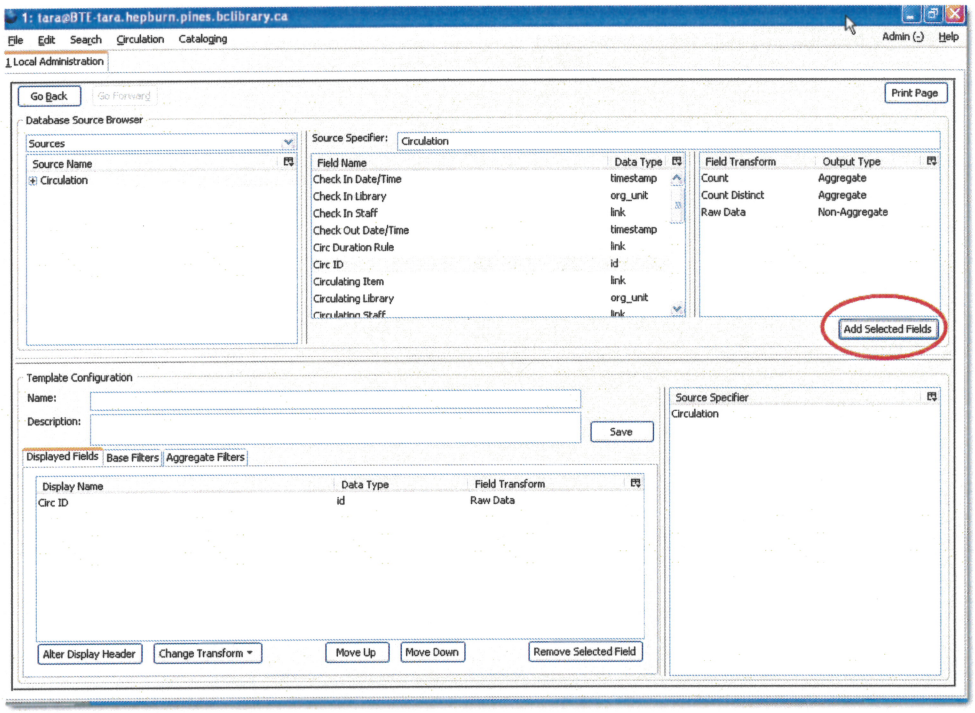
TIP
Use *Count Distinct* when you want to count things, or want to know how many unique data points, in this example how many circulations. Use *Count* when you want to know how many data points. *Count distinct* removes duplicates.

An example would be you want to know the number of active patrons in a given month, where 'active' means they circulated at least one item. Your report would be on the 'Circulation' object. Circulations have a Circulating patron ID, which is a unique number representing each patron in the database. If we do a 'count distinct' of the patron IDs, we will know the number of unique patrons who circulated at least one book during the given time frame. If instead, we do a 'count', we'll know how many books were circulated, since each circulation will have a patron ID.

This is illustrated in the table below listing the circulations for one month. If you would like to know how many circulations there were in total, you should perform a *count* on the Patron IDs. If you would like to know how many different (or distinct) patrons circulated an item, you should perform a *distinct count* on Patron IDs. There are three patrons in this table but only two distinct patrons.

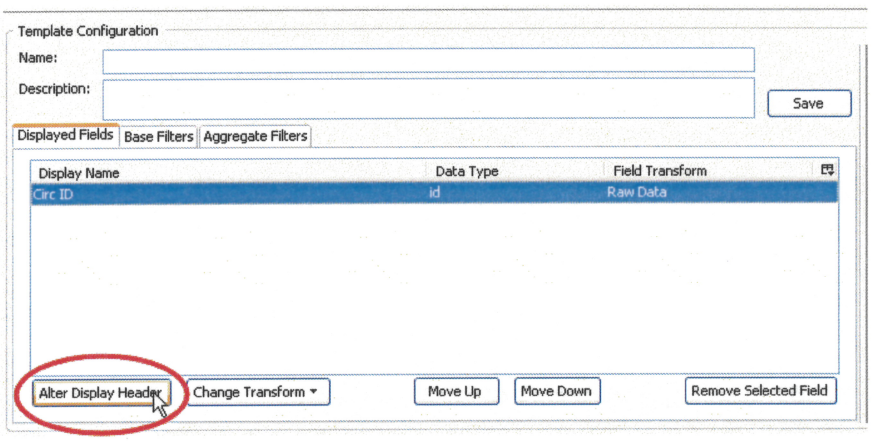
Title	**Patron ID**	**Patron Name**
Harry Potter and the Chamber of Secrets	001	John Doe
Northern Lights	001	John Doe
Harry Potter and the Philosopher's Stone	222	Plain Jane

7. Click *Add Selected Fields* underneath the *Field Transform* pane. *Field Transform pane* is where you choose how to manipulate the data from the selected fields. Note that *Circ ID* now shows up in the bottom left hand pane.

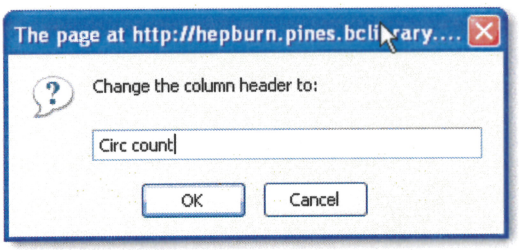


TIP
Double-clicking on the field name is a shortcut to adding the raw data to the output.

8. *Circ ID* will be the Excel column header and/or table label. You can rename default display names to something more meaningful. To do so in this example, select the *Circ ID* row and click *Alter Display Header*.



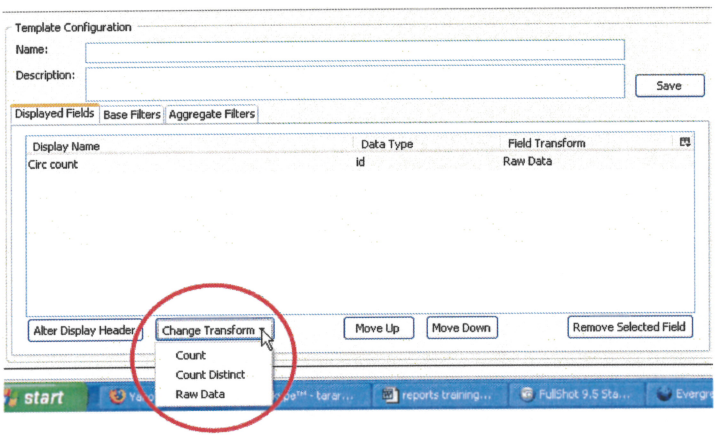
9. Type in the new column header name, for example *Circ count* and click *OK*.



TIP

Clicking on the displayed field name is a shortcut to altering the display header.

Note the *Change Transform* button in the bottom left hand pane. It has the same function as the upper right *Field Transform* pane for fields that have already been added.

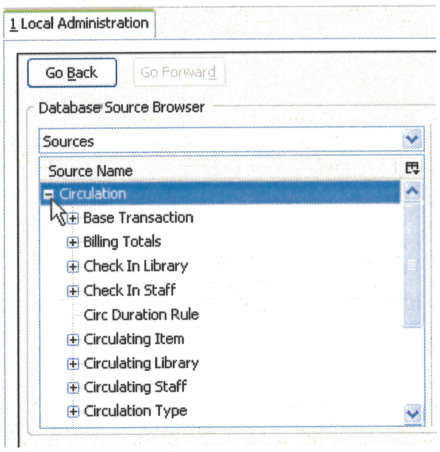


TIP

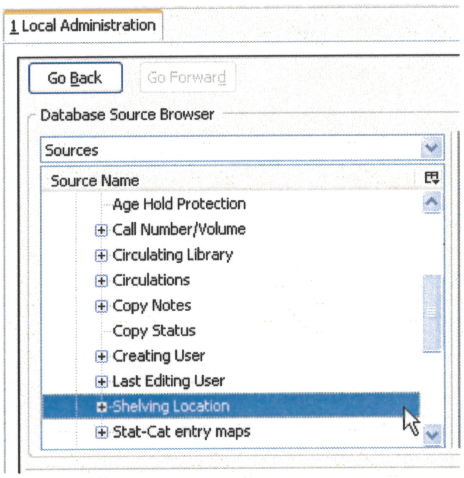
Selecting a *non-aggregate* output type will return one row of output in your report for each row in the database. Selecting an *aggregate* output type will group together several rows of the database and return just one row of output with, say, the average value or the total count for that group. Other common aggregate types include minimum, maximum, and sum.

You add other required data to your report by going back to the *Sources* pane and selecting required fields. In this example, you are going to add circulating item shelving location to further refine the circulation report.

10. In the top left hand *Sources* pane, expand *Circulation.* Depending on your computer you will either click on the + sign or on an arrow to expand the tree.



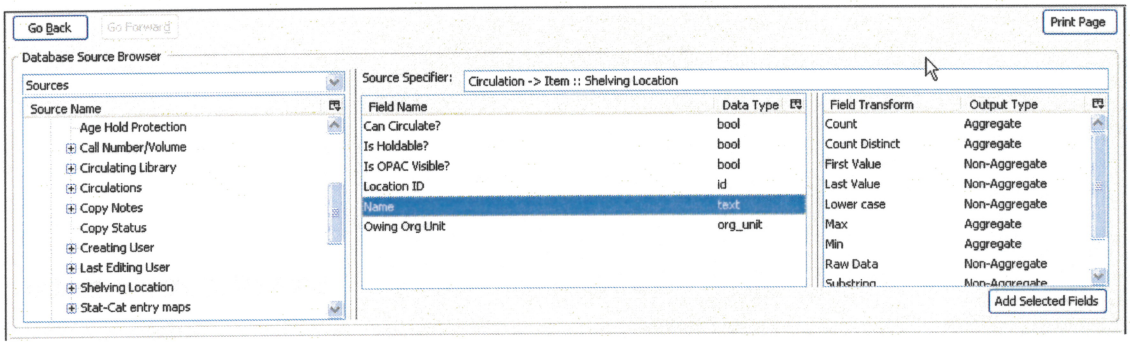
11. Click on the + or arrow to expand *Circulating Item*. Select *Shelving Location*.



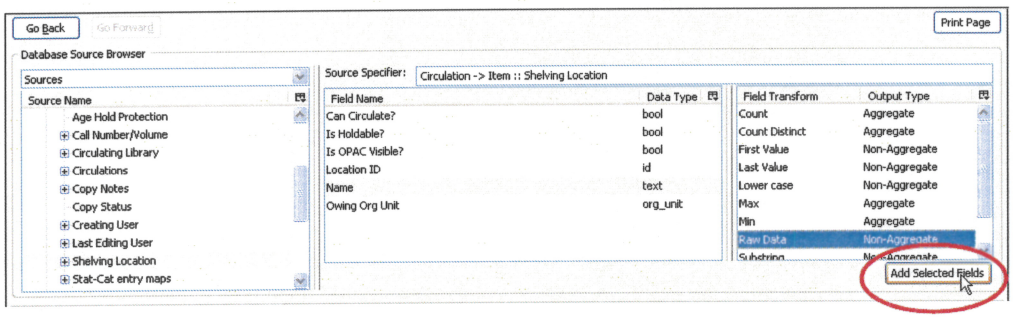
TIP

When you are creating a template take the shortest path to the field you need in the left hand *Sources* pane. Sometimes it is possible to find the same field name further in the file structure, but the shortest path is the most efficient.

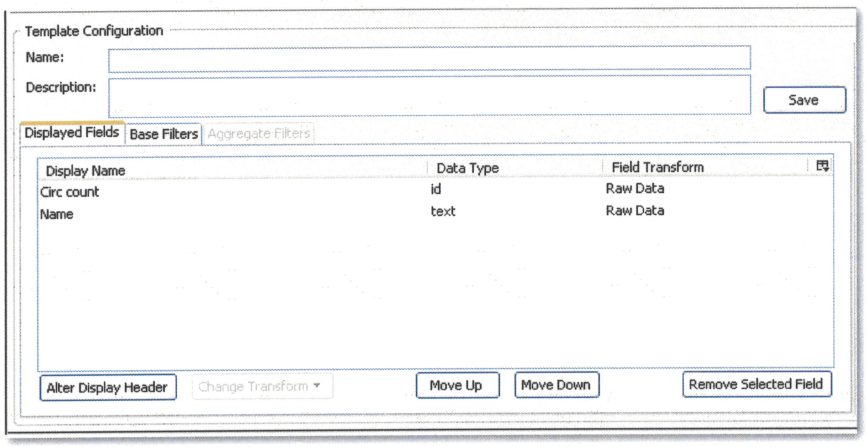
12. In the *Field Name* pane select *Name*.



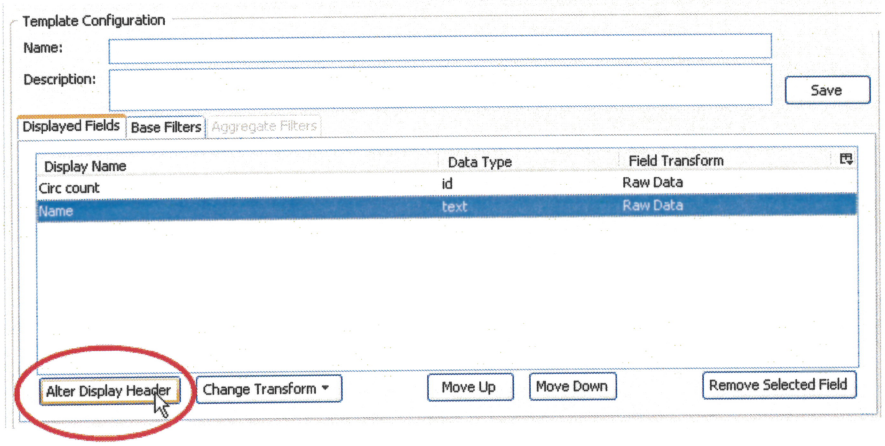
13. In the upper right *Field Transform* pane, select *Raw Data* and click *Add Selected Fields*. Use *Raw Data* when you do not wish to transform field data in any manner.



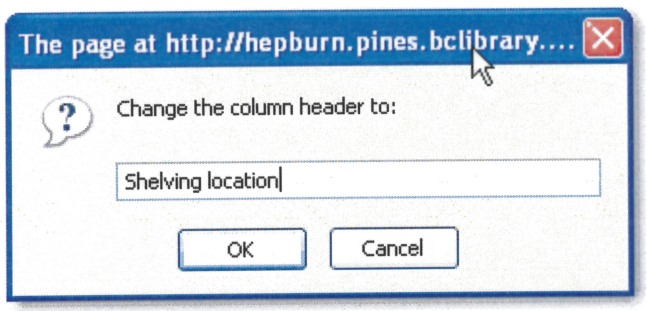
14. *Name* will appear in the bottom left hand pane.



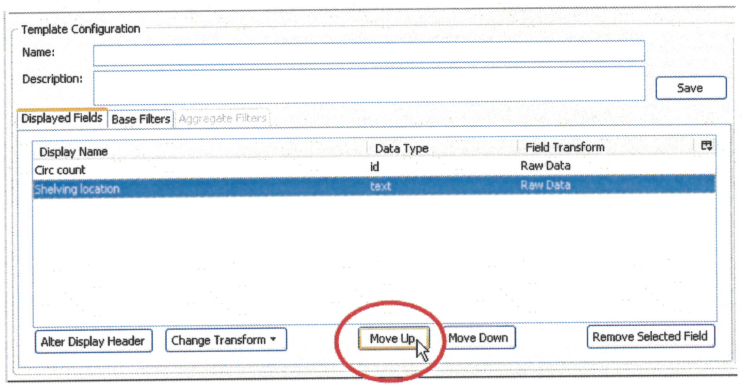
15. Select the *Name* row and click *Alter Display Header*.



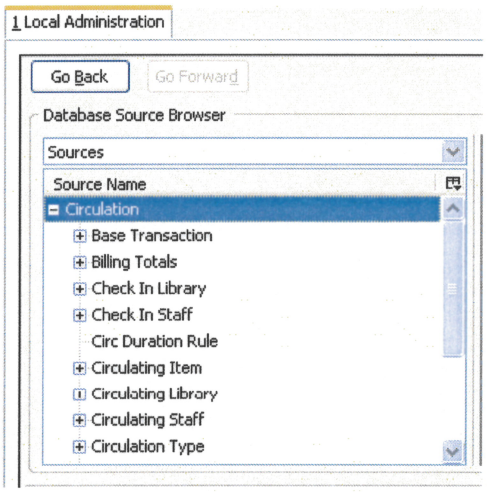
16. Enter a new, more descriptive column header, for example, *Shelving location*. Click *OK*.



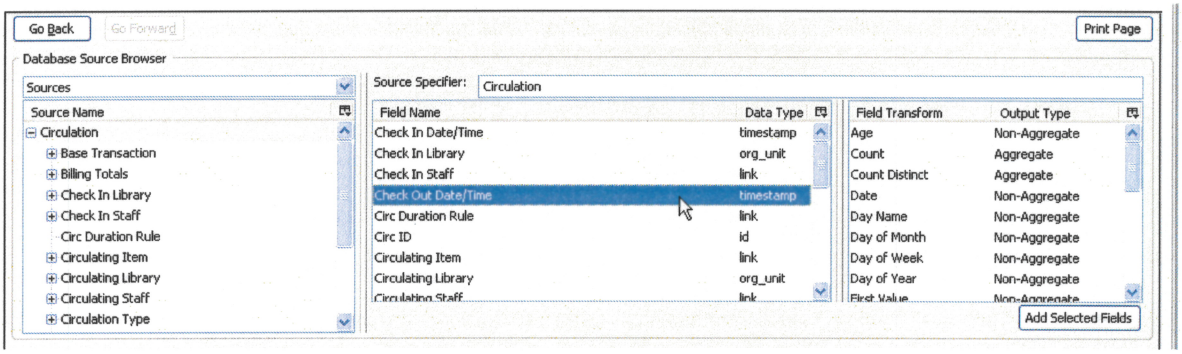
17. Note that the order (top to bottom) will correspond to the order (left to right) on the final report. Select *Shelving location* and click on *Move Up* to move *Shelving location* before *Circ count*.



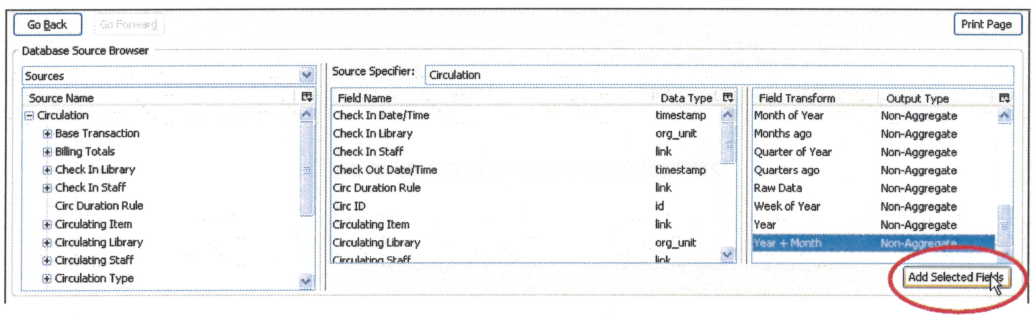
18. As in Step 10, go back to *Circulation* in the *Sources* pane to add more fields to your template.



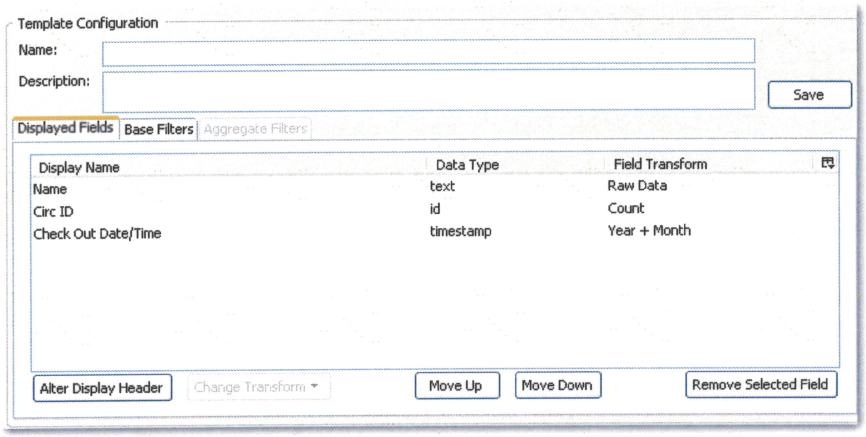
19. Select *Check Out Date/Time* from the middle *Field Name* pane.



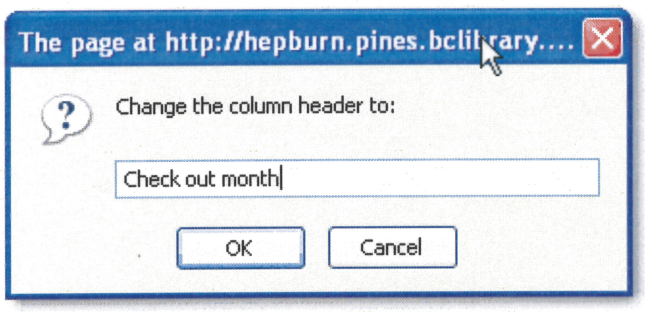
20. Select *Year + Month* in the right hand *Field Transform* pane and click *Add Selected Fields*.



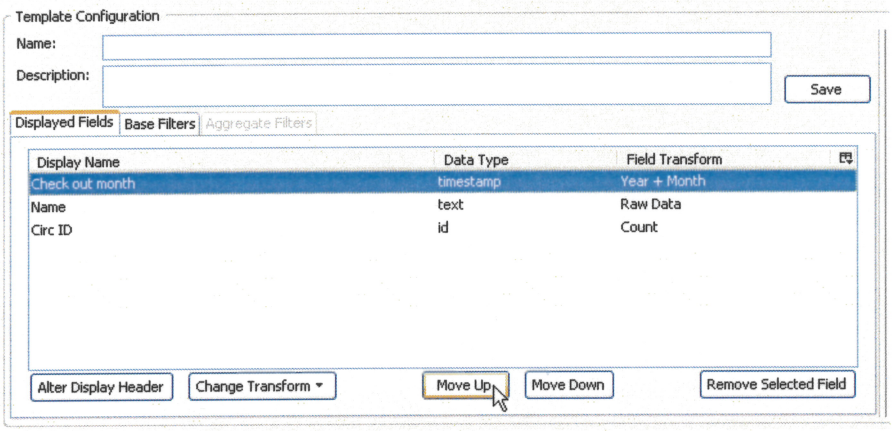
21. *Check Out Date/Time* will appear in the *Displayed Fields* pane.



22. Select the *Check Out Date/Time* row. Click *Alter Display Header* and change the column header to *Check out month.*



23. Move *Check out month* to the top of the list using the *Move Up* button, so that it will be the first column in an Excel spreadsheet or in a chart.



TIPS

There are different data types in the *Field Name* pane. When you want to count an item, you will want to count on the id field, as in this example. Note that the data type is *id (*under data type column in middle pane).

Generally you will not want to select a data type that is *link*. This is a sign that you'll want to go further down the tree in the *Sources* pane. If you do select *link* you will get a number that is a meaningful reference for the database, but not of much use to a human user. However, there are a few instances where you might want to use a field that does have a data type of link. For example, if you want to count the number of patrons you circulated items to; you could do a count on the patron (link) to find this out.

When you want to filter on a library, make sure that the field name is on an *org_unit* data type.

Template Configuration Pane—filters

Now there are 3 fields in the bottom left hand *Template Configuration* pane. Note that there are 3 tabs in this pane: *Displayed Fields*, *Base Filters* and *Aggregate Filters*. For filtering purposes, you will mostly be using the *Base Filters* tab. A filter allows you to return only the results that meet the criteria you set.

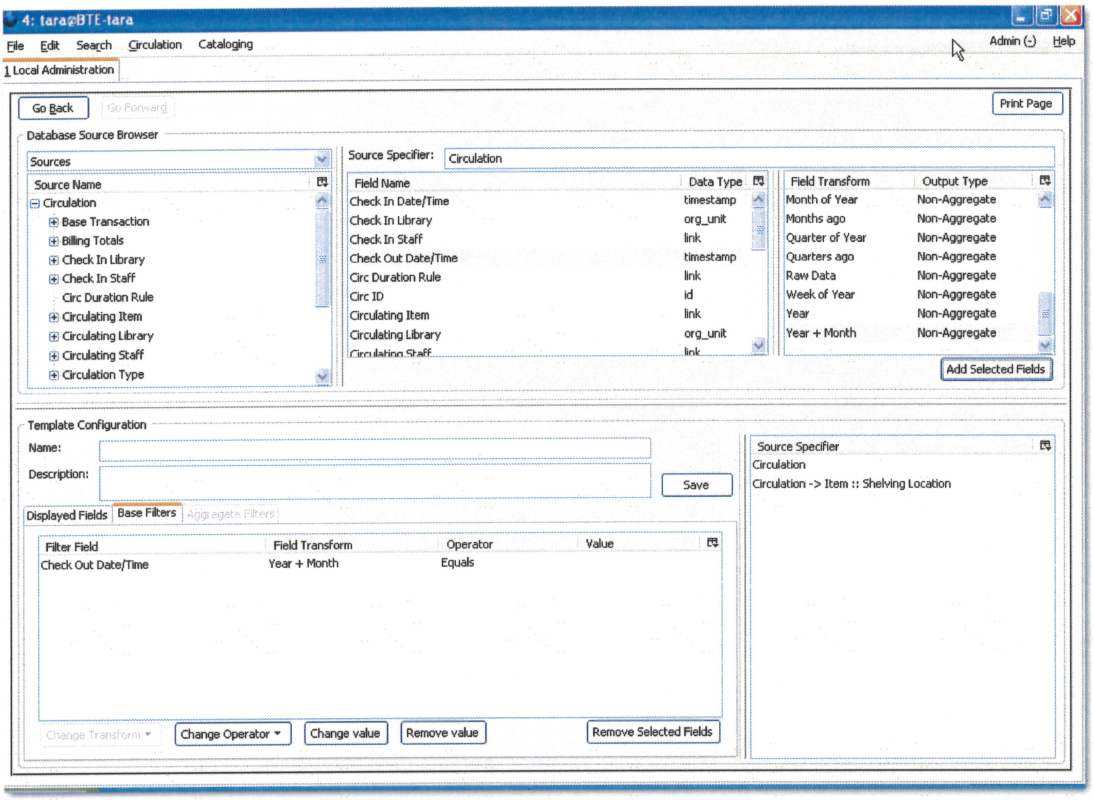
To see the difference between a *base filter* and an *aggregate filter*, imagine that you are creating a report to count the number of circulations in January. This would require a *base filter* to specify the month of interest because the month is a *non-aggregate* output type. Now imagine that you wish to list all items with more than 25 holds. This would require an *aggregate filter* on the number of holds per item because you must use an *aggregate* output type to count the holds.

There are many available operators when using filters. Some examples are Equals, In list, is NULL, Greater than or equal to, and so on. In list is the most flexible operator, and in this case will allow you flexibility when running a report from this template. For example, it would be possible to run a report on a list of time stamps (in this case will be trimmed to year and month only), run a report on a single month, or run a report comparing two months. It is also possible to set up recurring reports to run at the end of each month. *In list* will be the operator you use most of the time.

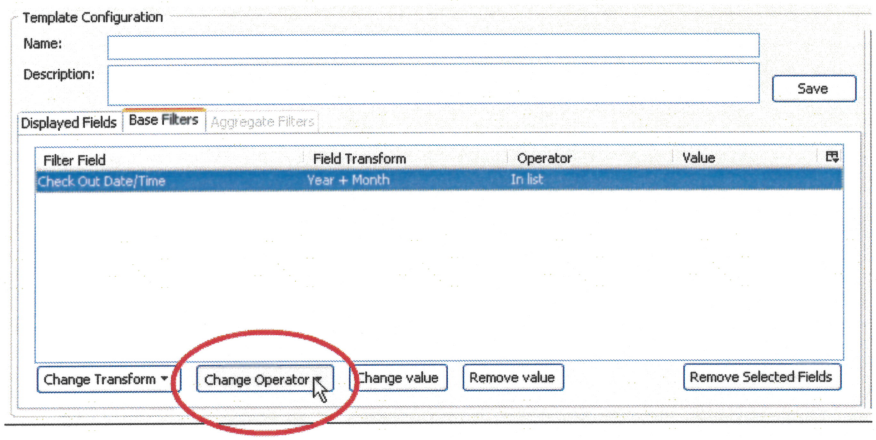
In this example we are going to use a *Base Filter* to filter out one library's circulations for a specified time frame. The time frame in the template will be configured so that you can change it each time you run the report.

Using Base Filters

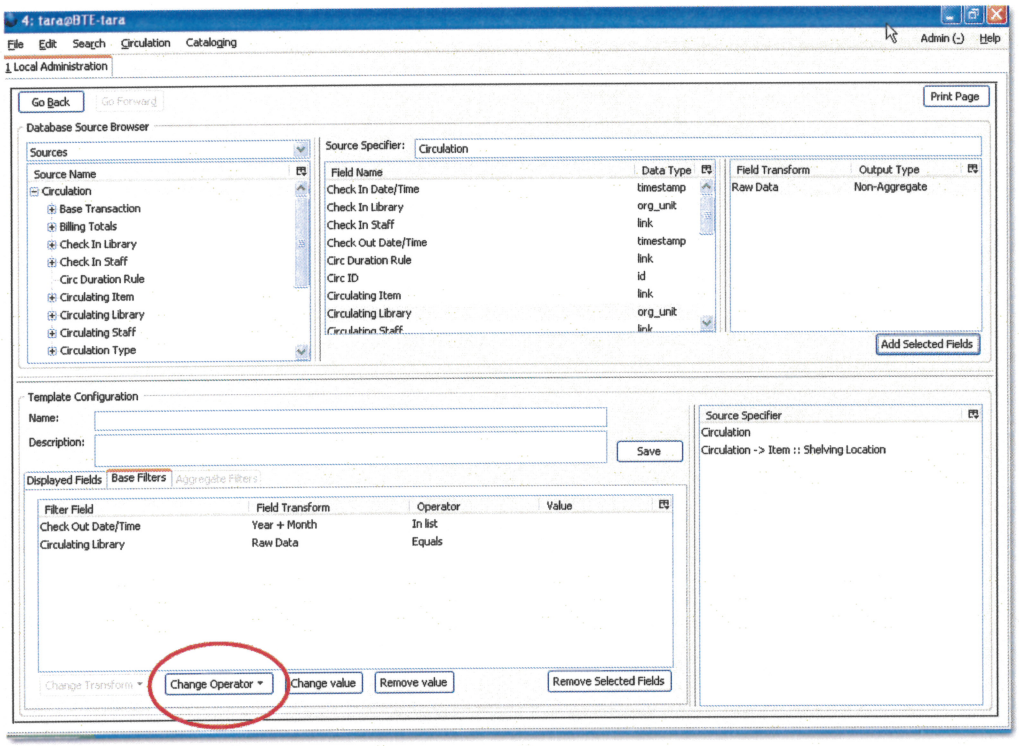
1. Select the *Base Filters* tab in the bottom *Template Configuration* pane.
2. For this circulation statistics example, select *Circulation* > *Check Out Date/Time* > *Year + Month* and click on *Add Selected Fields*. You are going to filter on the time period.



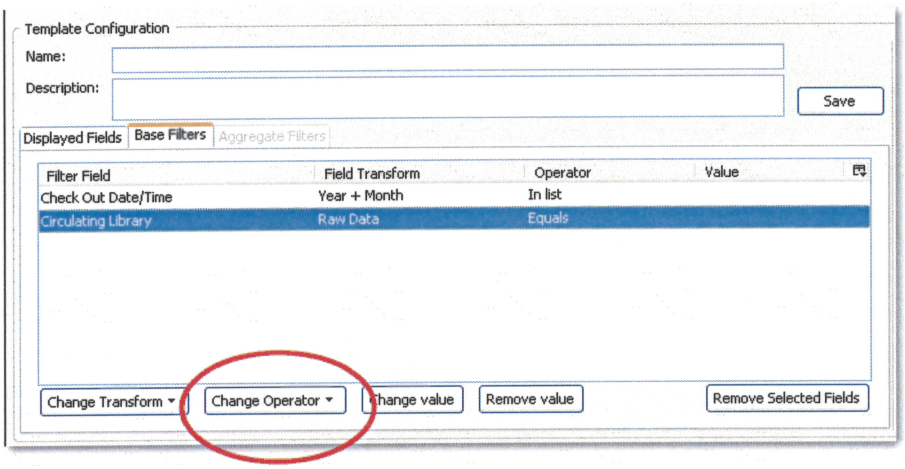
3. Select *Check Out Date/Time*. Click on *Change Operator* and select *In list* from the dropdown menu.



4. To filter on the location of the circulation select *Circulation* > *Circulating library* > *Raw Data* and click on *Add Selected Fields*.



5. Select *Circulating Library* and click on *Change Operator* and select *Equals*. Note that this is a template, so the value for *Equals* will be filled out when you run the report.

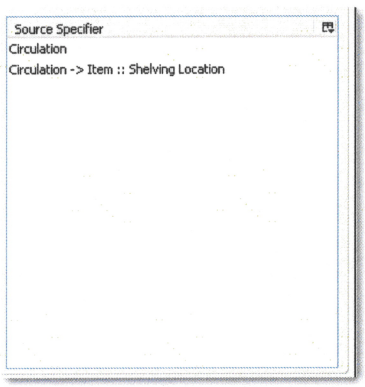


TIPS

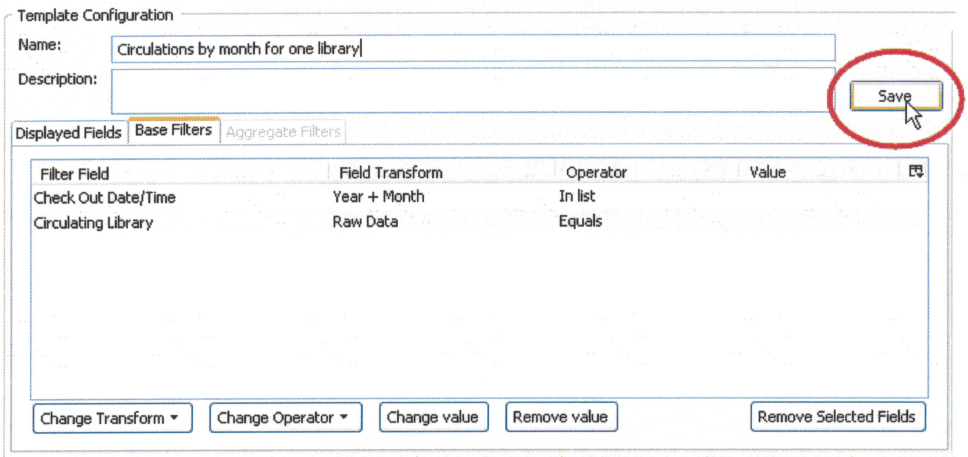
For multi-branch libraries, you would select *Circulating Library* with *In list* as the operator, so you could specify the branch(es) when you run the report. This leaves the template configurable to current requirements. In comparison, sometimes you will want to hardcode true/false values into a template. For example, deleted bibliographic records remain in the database, so perhaps you want to hardcode deleted=false, so that deleted records don't show up in the results. You might want to use deleted=true, for a template for a report on deleted items in the last month.

It is not possible to edit a template. It is possible to clone a template and change the clone.

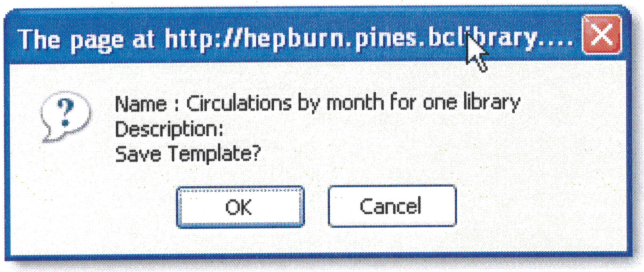
The bottom right hand pane is also a source specifier. By selecting one of these rows you will limit the fields that are visible to the sources you have specified. Use **Ctrl + click** to select or deselect items.



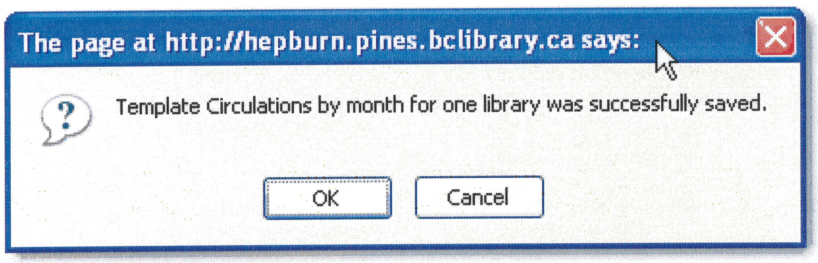
6. Once you have configured your template, you must name and save it. Name this template *Circulations by month for one library*. You can also add a description. In this example, the title is descriptive enough, so a description is not necessary. Click *Save*.



7. Click *OK*.



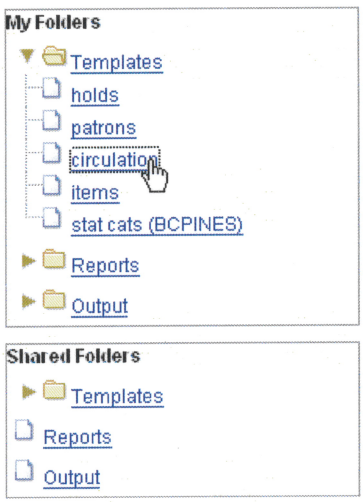
8. You will get a confirmation dialogue box that the template was successfully saved. Click *OK*.



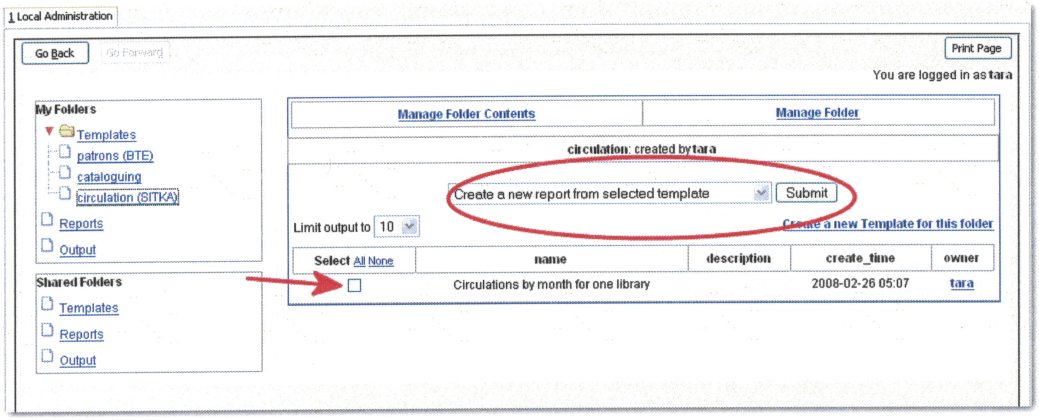
Generating a report from a template

Now you are ready to run the report from the template you have created.

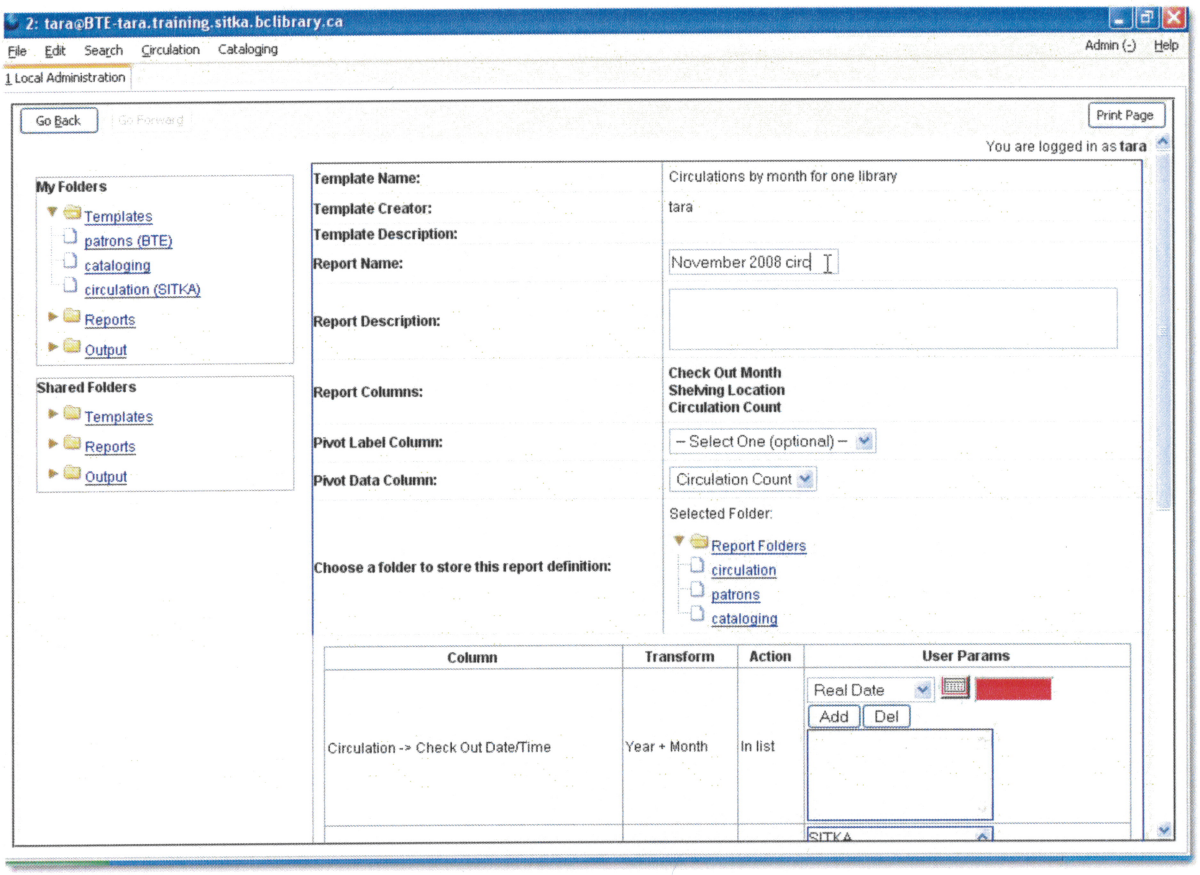
1. Click on *Templates* to expand this folder and select *circulation*.



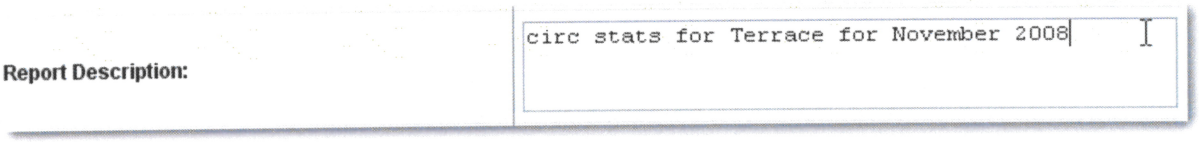
2. Select the box beside *Circulations by month for one library*. Select *Create a new report from selected template* from the dropdown menu. Click *Submit*.



3. Name the report *November 2008 circ*.

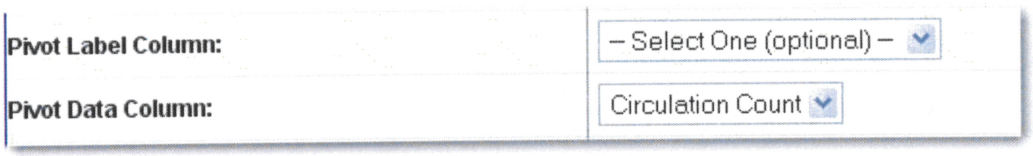


4. The *Report Description* is optional. In this example the *Report Description* is "circ stats for Terrace for November 2008".

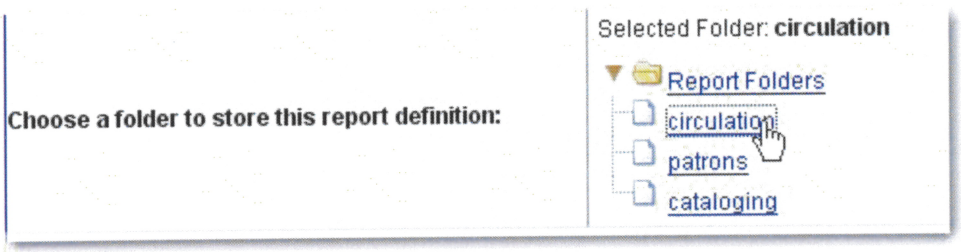


5. The *Report Columns* are for informational purposes only. These are the fields that were selected when the template was created (see step 8 on page 11, step 15 on page 14 and step 22 on page 17). As these were hard coded into the template it is not possible to alter them at this stage.

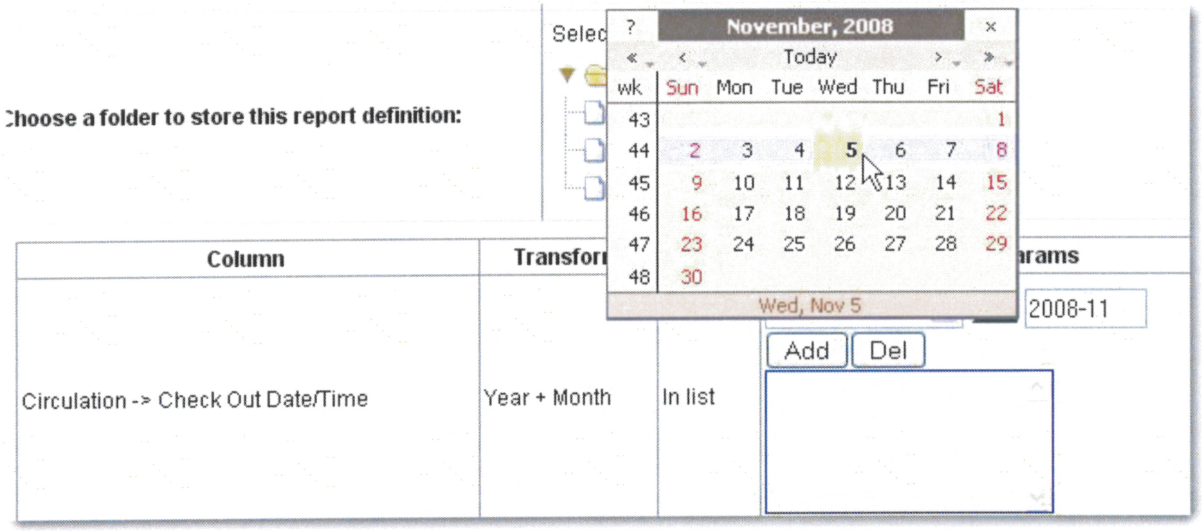
6. The *Pivot Label Column* and *Pivot Data Column* dropdown menus are optional. Pivot tables are a different way to view data. If you currently use pivot tables in Excel, it is better to select an Excel output in Step 8 and continue using pivot tables in Excel.



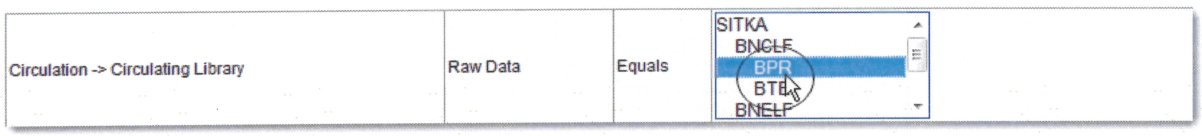
7. Select the folder where you want to store the report definition in. In this example, select the *circulation* folder.



8. Select values for the *Circulation > Check Out Date/Time*. Use the calendar widget or manually enter the desired dates, and click *Add.*



9. Select a value for the circulating library.

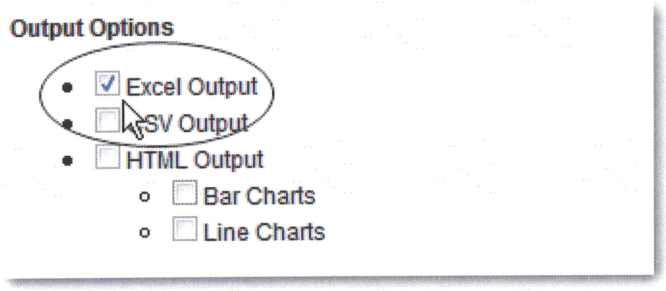


TIPS

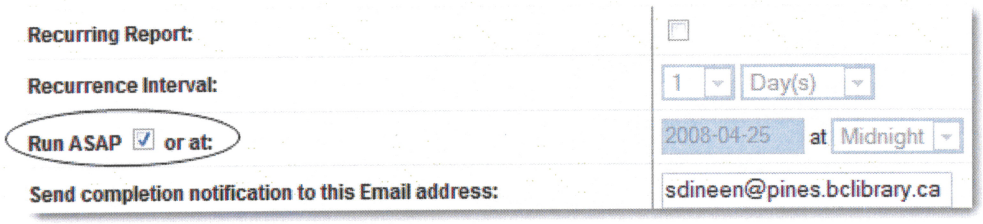
It is possible to select **relative dates**. If you select a relative date *1 month ago* you can schedule reports to automatically run each month. If you want to run monthly reports that also show comparative data from one year ago, select a relative date *1 month ago*, and *13 months ago*.

If you use relative dates, be careful to put what ends up as the earliest date first. For example, if you want a list of items that were overdue 4-8 weeks ago (28-56 days ago) then you'll actually want to enter 56 days to 28 days. 56 days ago is an earlier date than 28 days ago, so 56 needs to be first; the system translates the relative date into an actual date. It is possible to select a combination of relative and real dates. If you want items that are 10+ weeks overdue, select BETWEEN "Jan 1st 2007" (or some other arbitrarily long ago date) AND 70 days ago and you'll get everything in between.

10. Select an output option. Options include Excel, CSV, HTML output (assumes tabular output) and bar or line charts.



11. Select *Run ASAP*. It is also possible to set up recurring reports and reports that automatically run at future intervals.

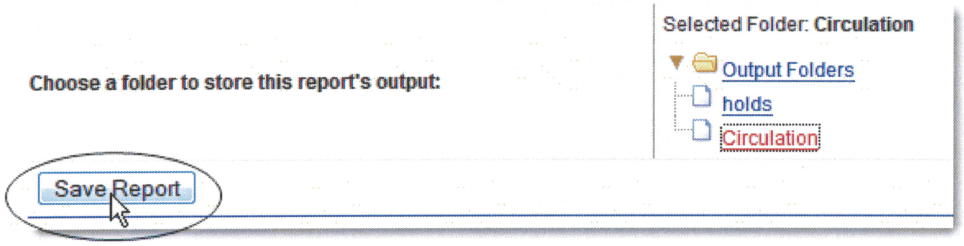


TIP

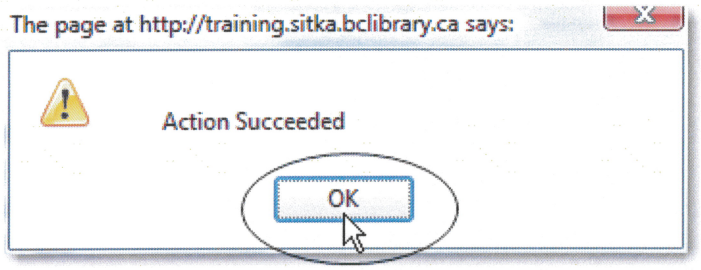
If you have an email address in your patron record, it will automatically appear in the email notification box. However, you can enter a different email address. You will receive an email with a website address when the report is completed. You can access the output of your report in a web browser, like Firefox or Internet Explorer. This website address is protected by a login. Reports stay there forever, unless you delete them.

12. Select a folder for the report's output.

13. Click *Save Report*.

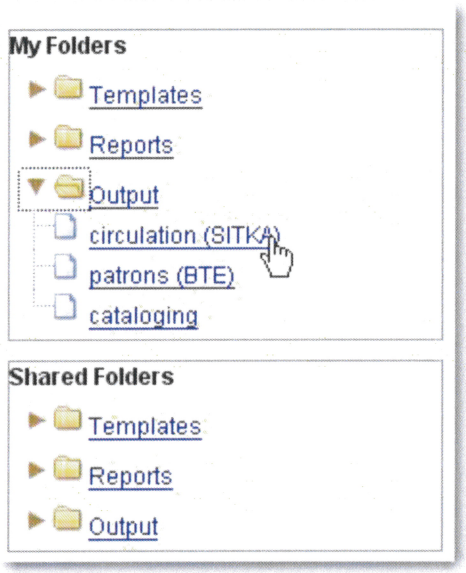


14. You will get a confirmation dialogue box that the *Action Succeeded*. Click *OK*.

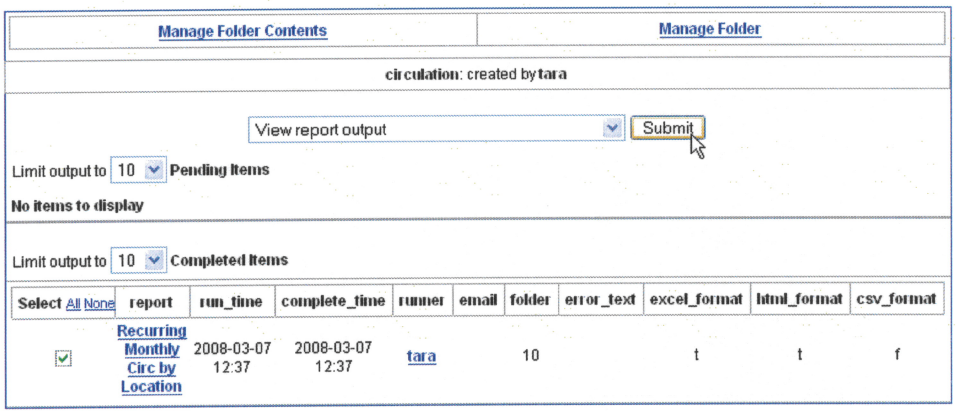


Viewing report outputs

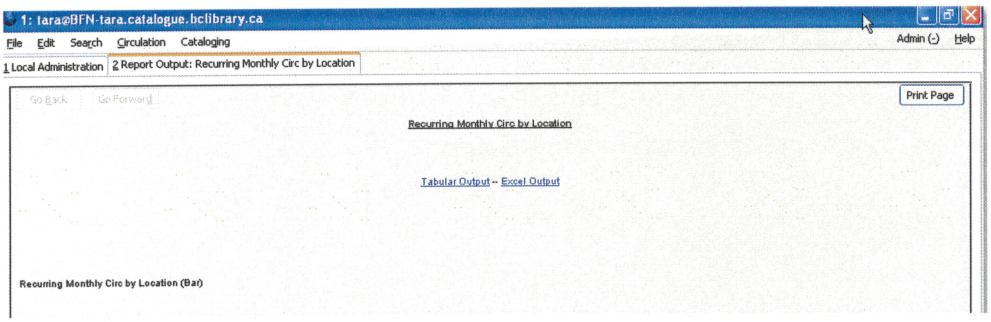
1. Click on *Output* to expand the folder. Select *circulation* (where you just saved the circulation report output).



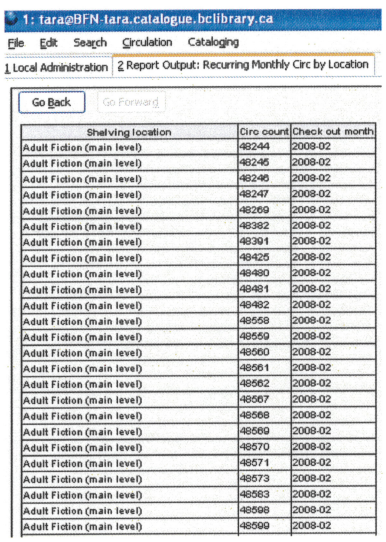
2. *View report output* is the default selection in the dropdown menu. Select *Recurring Monthly Circ by Location* by clicking the checkbox and click *Submit*.



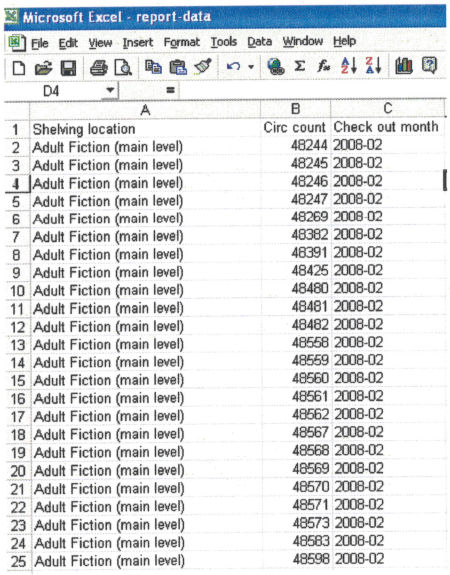
3. A new tab will open for the report output. Select either *Tabular Output* or *Excel Output*.



4. Tabular output looks like this:



5. If you want to manipulate, filter or graph this data, Excel output would be more useful. Excel output looks like this in Excel:



	A	B	C
1	Shelving location	Circ count	Check out month
2	Adult Fiction (main level)	48244	2008-02
3	Adult Fiction (main level)	48245	2008-02
4	Adult Fiction (main level)	48246	2008-02
5	Adult Fiction (main level)	48247	2008-02
6	Adult Fiction (main level)	48269	2008-02
7	Adult Fiction (main level)	48382	2008-02
8	Adult Fiction (main level)	48391	2008-02
9	Adult Fiction (main level)	48425	2008-02
10	Adult Fiction (main level)	48480	2008-02
11	Adult Fiction (main level)	48481	2008-02
12	Adult Fiction (main level)	48482	2008-02
13	Adult Fiction (main level)	48558	2008-02
14	Adult Fiction (main level)	48559	2008-02
15	Adult Fiction (main level)	48560	2008-02
16	Adult Fiction (main level)	48561	2008-02
17	Adult Fiction (main level)	48562	2008-02
18	Adult Fiction (main level)	48567	2008-02
19	Adult Fiction (main level)	48568	2008-02
20	Adult Fiction (main level)	48569	2008-02
21	Adult Fiction (main level)	48570	2008-02
22	Adult Fiction (main level)	48571	2008-02
23	Adult Fiction (main level)	48573	2008-02
24	Adult Fiction (main level)	48583	2008-02
25	Adult Fiction (main level)	48598	2008-02

TIPS

Note that only the owner can edit or change or delete these – they are view only.

Your own reports should be named uniquely within each folder, but from library to library you will not need to worry about duplicating report names if those reports are not shared.

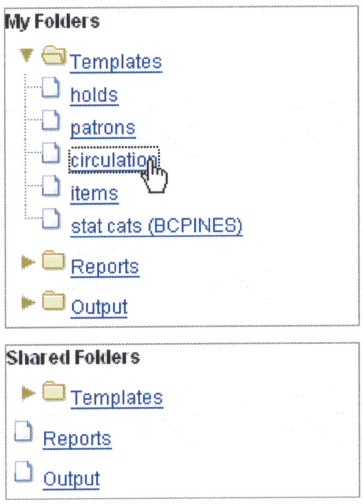
Running recurring reports

Recurring reports are a useful way to save time by scheduling reports that you run on a regular basis, such as monthly circulation, and monthly patron registration statistics. When you have set up a report to run on a monthly basis, you'll get an email informing you that the report has successfully run. You can click on a link in the notification email that will take you directly to the report output. You can also access the output through the reporter interface.

There are three steps to creating a report: selecting a template, report definition, and viewing the output. This tip sheet will outline how to set up recurring monthly circulation report only at the report definition stage. Only users with Local System Administration permissions can create reports.

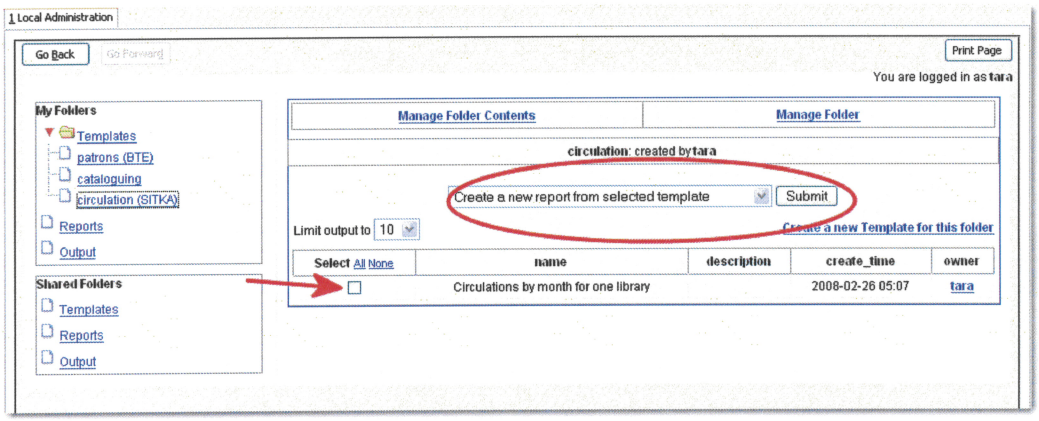
This tip sheet assumes that you have had reports training and read the handout, which is available at: http://sitka.bclibraries.ca/pines-users/sitka-evergreendocumentation-in-word-format/.

1. Click on *Templates* to expand this folder and select *circulation*.

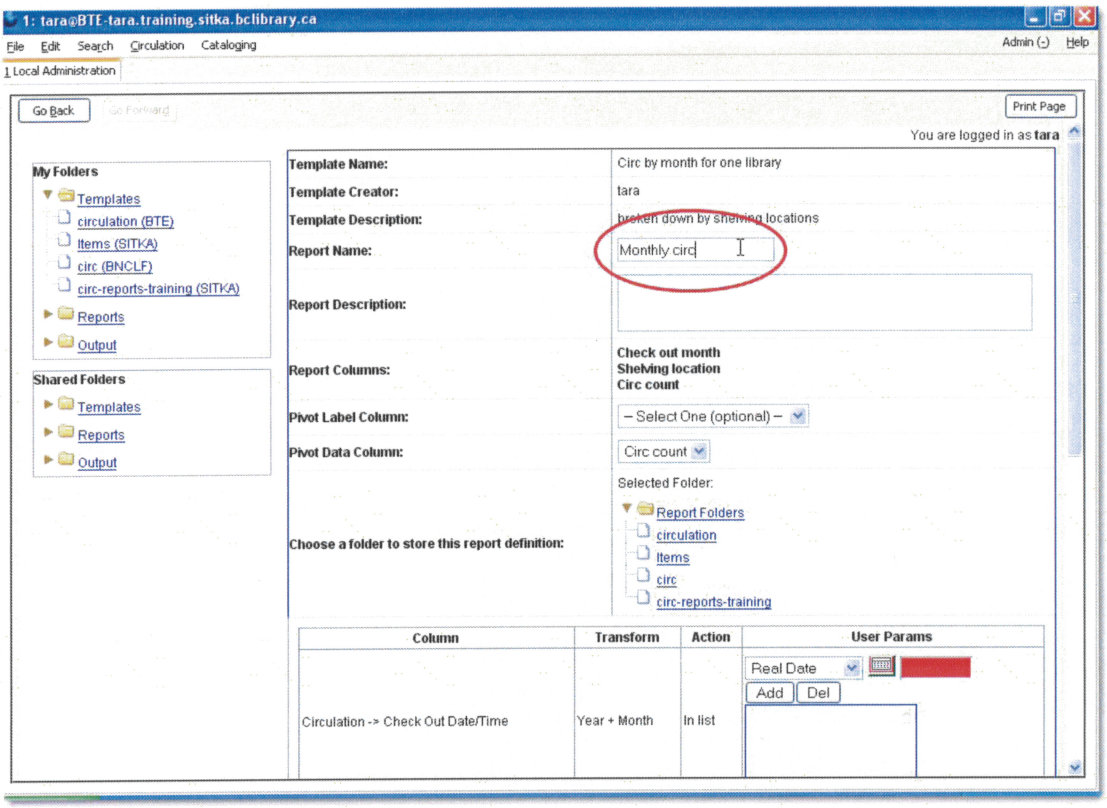


NOTE: This example shows starting the report from a template that is in My Folders. For instructions on running reports from Shared Folders see the tip sheet titled **Using shared templates to run reports** available at http://sitka.bclibraries.ca/pines-users/sitka-evergreendocumentation-in-word-format/Using%20shared%20templates%20to%20run%20reports.doc/

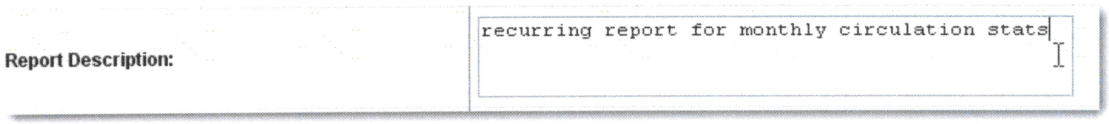
2. Select the box beside *Circulations by month for one library*. Select *Create a new report from selected template* from the dropdown menu. Click *Submit*.



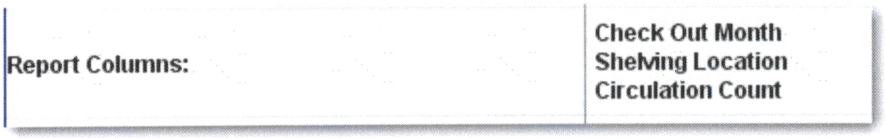
3. Name the report *Monthly circ*.



4. The *Report Description* is optional. In this example the *Report Description* is "recurring report for monthly circulation stats".

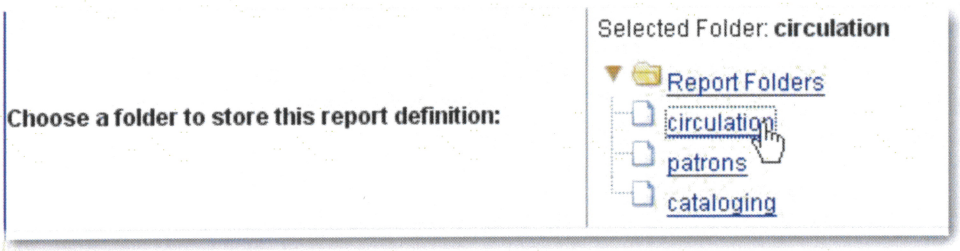


5. The *Report Columns* are for informational purposes only. As these were hard coded into the template it is not possible to alter them at this stage.

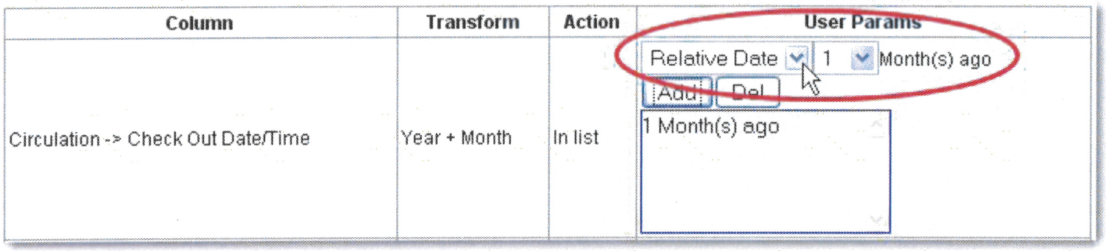


6. The *Pivot Label Column* and *Pivot Data Column* dropdown menus are optional. Pivot tables are a different way to view data. If you currently use pivot tables in Excel, it is better to select an Excel output in Step 8 and continue using pivot tables in Excel.

7. Select the folder where you want to store the report definition in. In this example, select the *circulation* folder.



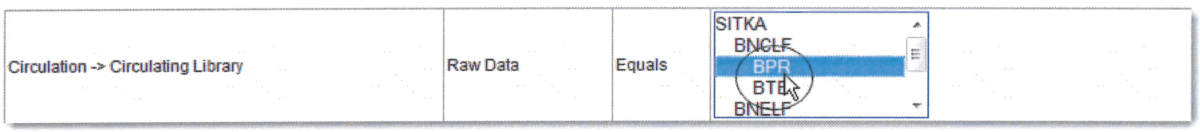
8. Select values for the *Circulation > Check Out Date/Time*. Select *Relative Date* from the dropdown menu. The second dropdown menu will default to show *1 Month(s) ago*.



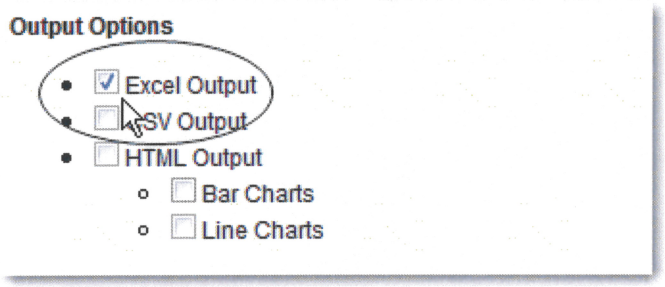
NOTE: The second drop down menu shows *Month(s) ago*, because the field *Transform* is Year + Month. If this template were set up to show circulation by day, then the dropdown menu would show *Day(s) ago*, not *Month(s) ago*.

TIP: Once you have been on Evergreen for a year, you could set up your recurring monthly reports to also show comparative data from one year ago. To do this select a relative date of *1 month ago*, and *13 months ago*.

9. Select a value for the circulating library.

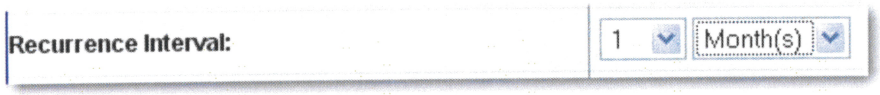


10. Select an output option. Options include Excel, CSV, HTML output (assumes tabular output) and bar or line charts.



11. Select *Recurring Report*.

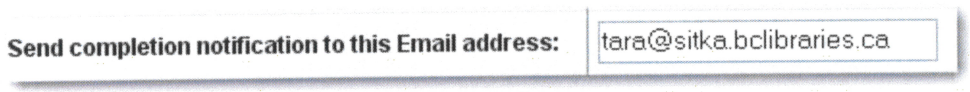
12. For the Recurrence Interval select *1 Month(s)*.



NOTE: It is possible to select an interval of days, weeks or months from this dropdown menu.

13. Do **not** select *Run ASAP*. Instead schedule the report to run at Midnight on the first day of the next month. Enter the date in YYYY-MM-DD format.

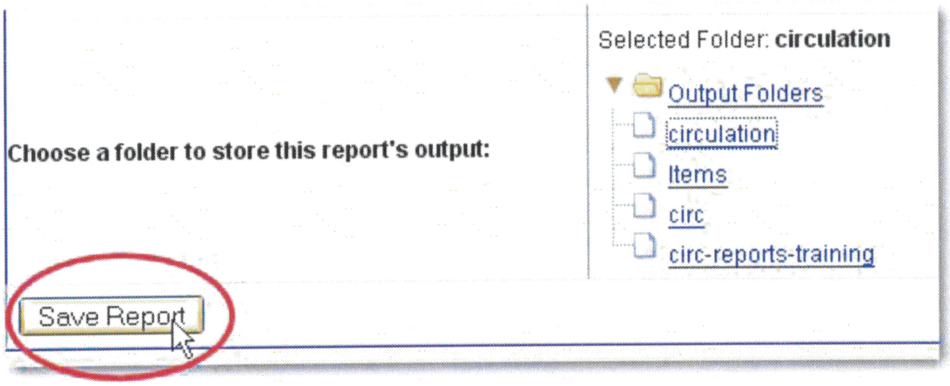
14. Ensure there is an email address to receive completion emails. You will receive an email completion notice each month when the output is ready.



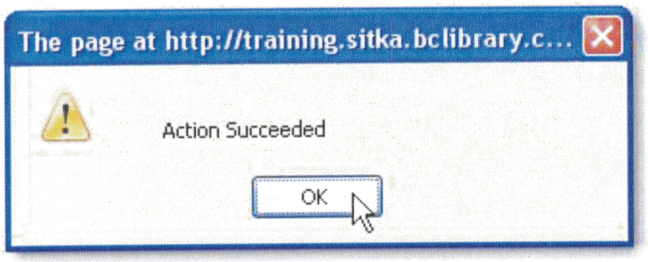
TIP: If you have an email address in your patron record, it will automatically appear in the email notification box. However, you can enter a different email address. You will receive an email with a website address when the report is completed. You can access the output of your report in a web browser, like Firefox or Internet Explorer. This website address is protected by a login. Reports stay there forever, unless you delete them.

15. Select a folder for the report's output.

16. Click *Save Report*.



17. You will get a confirmation dialogue box that the *Action Succeeded*. Click *OK*.

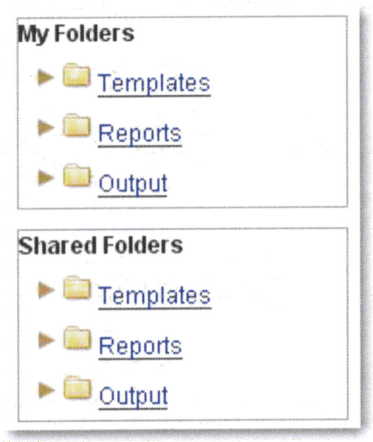


You will get an email on the 1st of each month with a link to the report output. By clicking this link it will open the output in a web browser. It is still possible to login to the staff client and access the output in Output folder.

Using shared templates to run reports

This tip sheet will outline how to use the existing templates that the support team has created for you to run routine reports. This tip sheet will walk through creating a basic circulation report from an existing template located in the shared *SITKA_templates* folder. Only users with Local System Administration permissions can create reports.

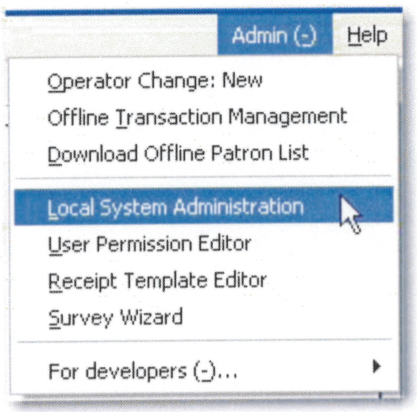
There are 3 steps: selecting a template, report definition, and viewing the output. For the first step, selecting a template, you will be choosing a template from the *Shared Folders* part of the interface. For both the second step, report definition, and the third step, viewing the output, you will be using the *My Folders* part of the interface.



This tipsheet assumes that you have already created at least one folder under *Templates, Folders,* and *Output* under *My Folders*. If you haven't done this already, please see pages 2-5 of the **Reports Training** handout available at http://sitka.bclibraries.ca/pines-users/sitka-evergreendocumentation-in-word-format/.

Accessing the reports interface

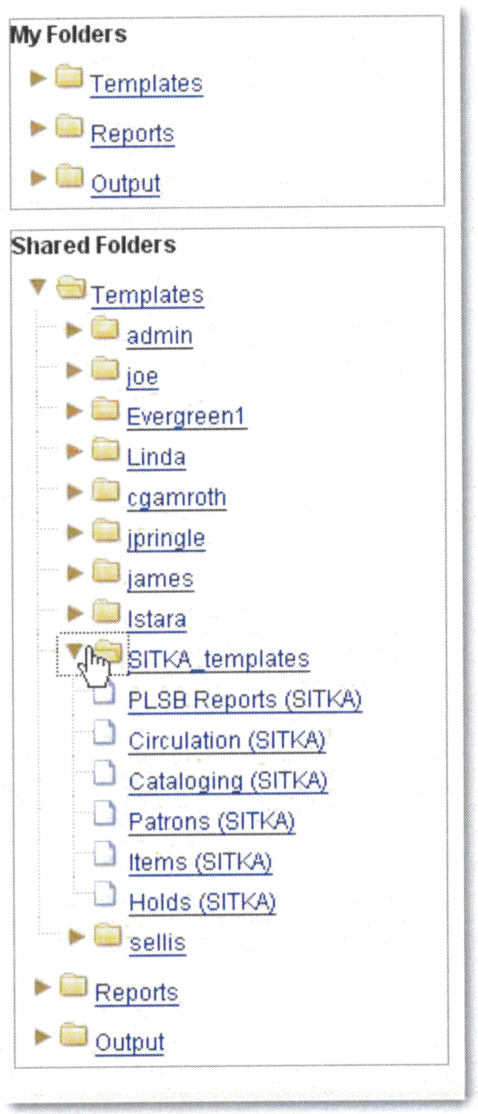
1. Under the upper right hand *Admin (-)* menu, select *Local System Administration*.



2. Under *Maintenance Reports*, click on *Reports*.

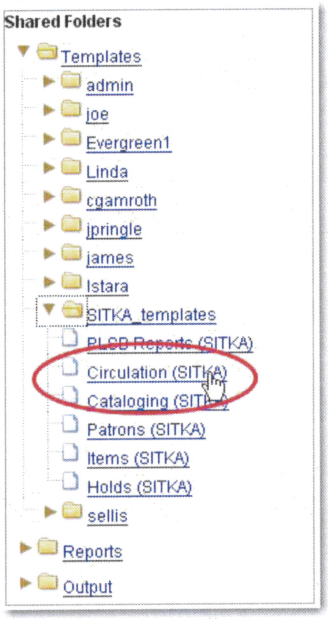
Step 1—Selecting the shared template

1. Under Shared Folders, expand the *Templates* folder, and the *SITKA_templates* folder. To expand the folders click on the brown arrow or folder icon. Do not click on the blue underlined hyperlink.

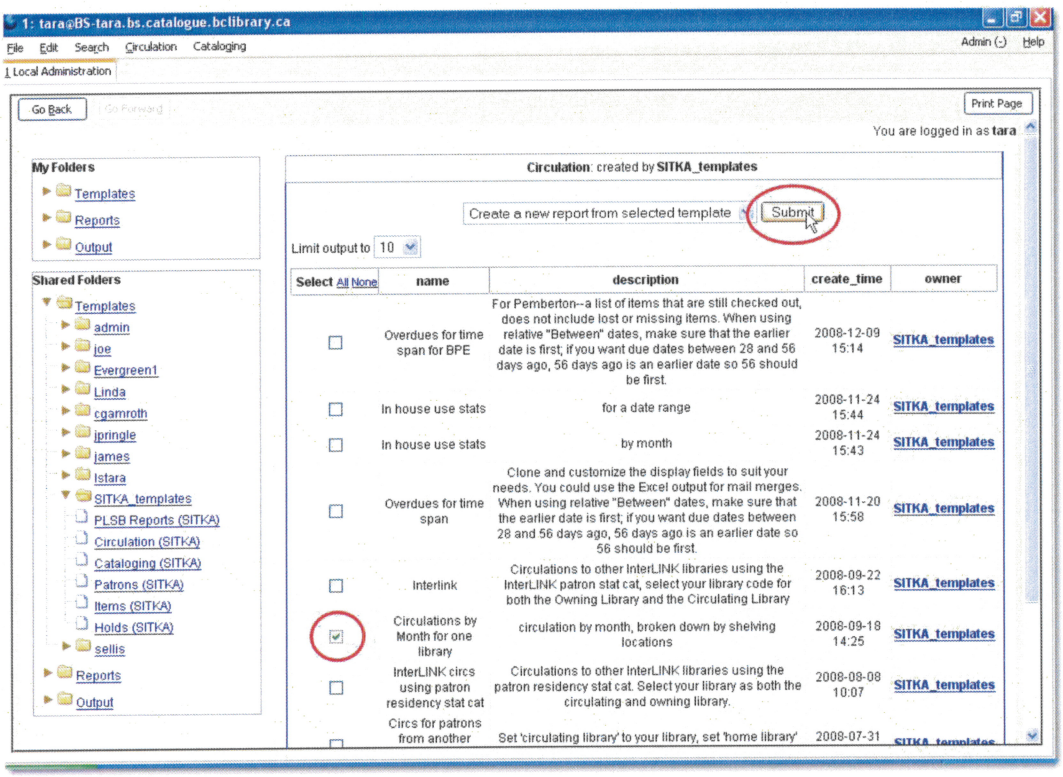


NOTE: for more information on creating, managing or navigating folders, please see the **Reports Training** document.

2. Click on the *Circulation (SITKA)* subfolder.

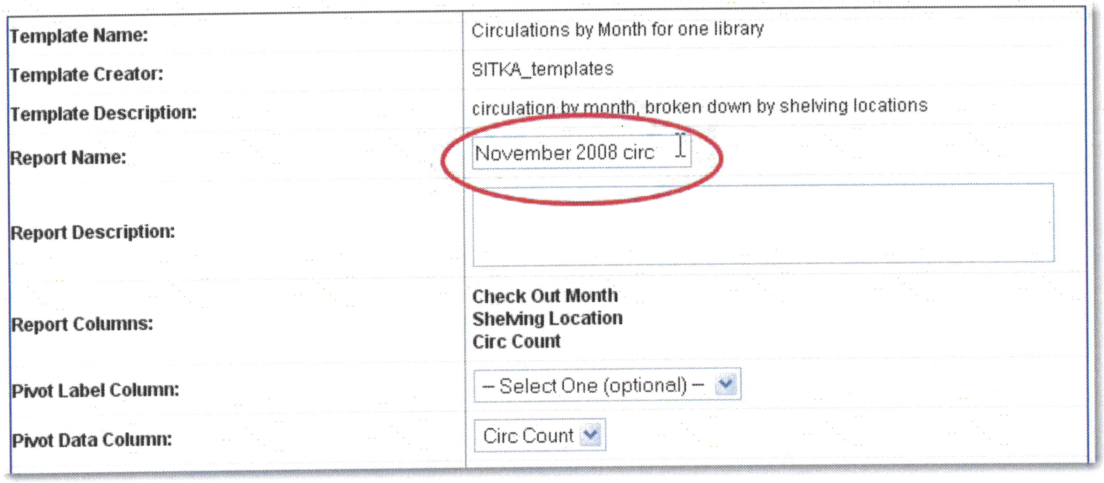


3. Select the *Circulations for one month for one library* template. The default selection for the dropdown menu is *Create a new report from selected template*. Click *Submit*.



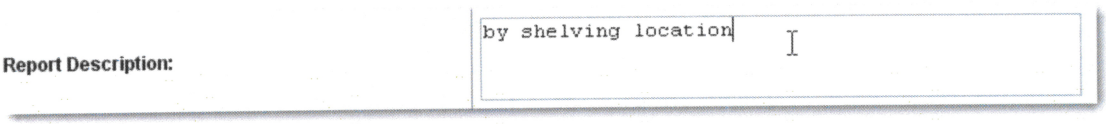
Step 2--Report definition

1. Name the report. In this example, the report is named November 2008 circ.

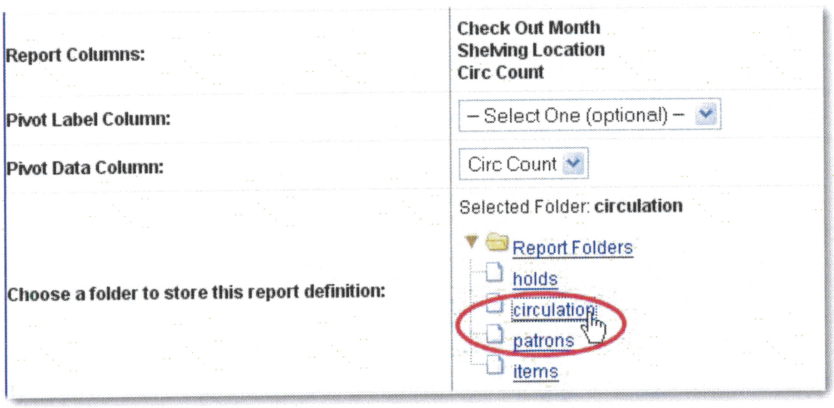


NOTE: The *Template Name*, *Template Creator* and *Template Description* are visible and for informational purposes only. They are hard coded when the template is created. At the report definition stage, it is not possible to change them.

2. It is optional to give the report a description. In this example the description is by shelving location.



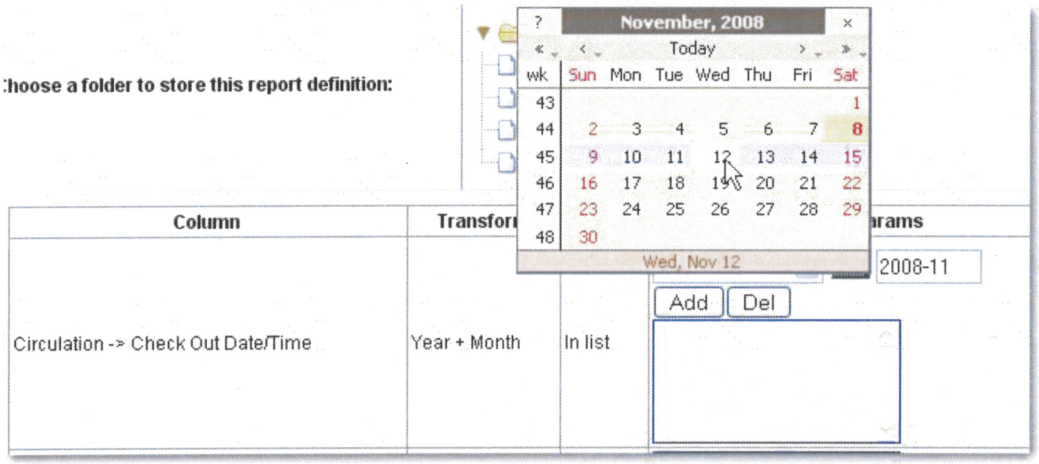
3. Select the folder where you want to save the report definition. Even though you are using a template from a shared folder, the report definition will be saved in *My Folders*. In this example, the report definition will be saved under *My Folders* > *Reports* > *Circulation*.



NOTE: The *Report Columns* are visible and for informational purposes only. They are hard coded when the template is created. At the report definition stage, it is not possible to change them.

The *Pivot Label Column* and *Pivot Data Column* dropdown menus are optional. Pivot tables are a different way to view data. Evergreen supports basic pivot table functionality. However, if you currently use pivot tables in Excel, it is better to select an Excel output in Step 7 and continue using pivot tables in Excel.

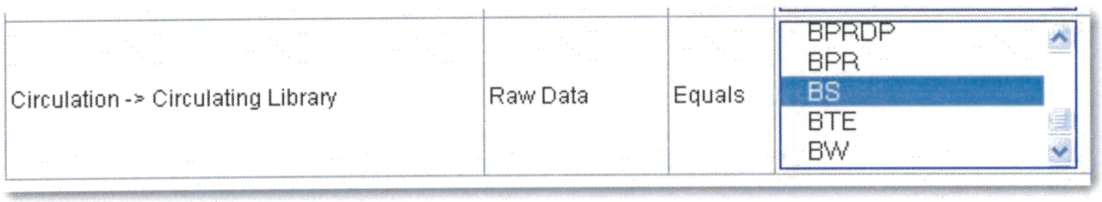
4. Use the calendar widget to select the month.



5. Click *Add* button to add the month.

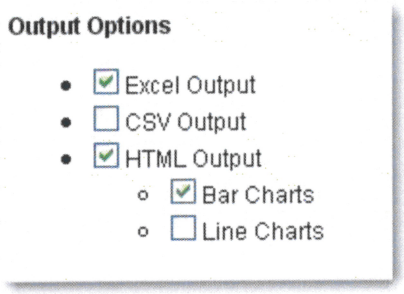
NOTE: In this example the Action is *In list*, so it is possible to add more than one month.

6. Select the library you want to report on. In this example, we are logged in as a Local System Admin in Smithers, so Smithers is selected as the default.



NOTE: In this example the Action is *Equals*, so it only possible to select one library to report on.

7. Select the desired output formats. The default is *Excel Output, HTML Output* and *Bar Charts*.

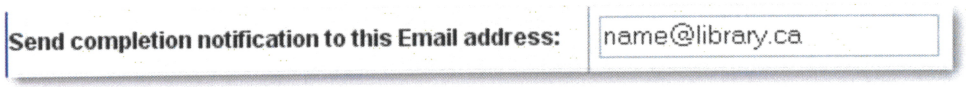


8. If you want the report to be recurring, check the box and select the *Recurrence Interval*. In this example, as this is a report that will only be run once, the *Recurring Report* box will not be checked.

NOTE: For detailed information on how to set up recurring reports, see the tip sheet on **Setting up recurring reports**.

9. Select the *Run ASAP* box. It is also possible to schedule reports to run at a future time.

10. It is optional to fill out an email address where a completion notice email can be sent.

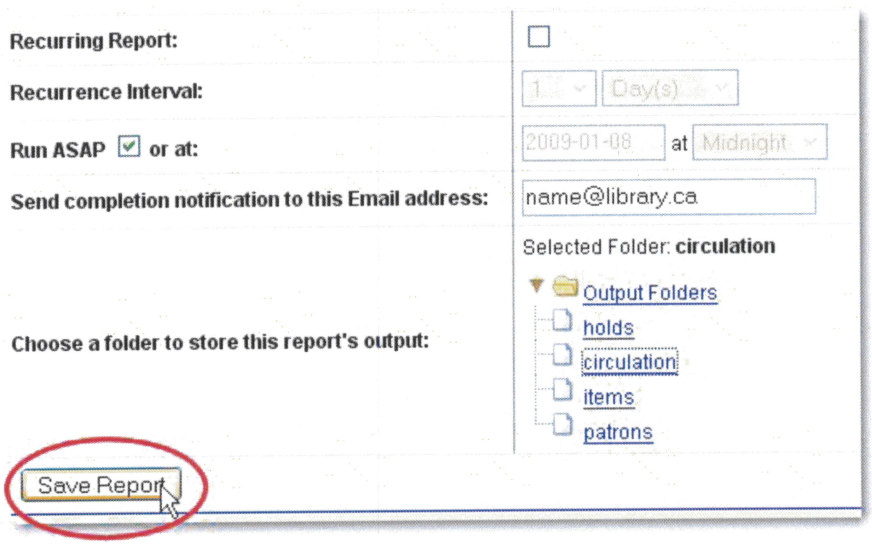


TIP

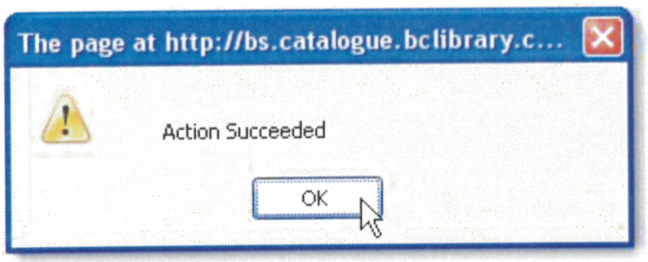
If you have an email address in your patron record, it will automatically appear in the email notification box. However, you can enter a different email address. You will receive an email with a website address when the report is completed. You can choose to access the output of your report in a web browser, like Firefox or Internet Explorer. This website address is protected by a login. Reports stay there forever, unless you delete them.

11. Select the folder where you want to save the report output. Even though you are using a template from a shared folder, the report output will be saved in *My Folders*. In this example, the report output will be saved under *My Folders* > *Reports* > *circulation*.

12. Click *Save Report*.

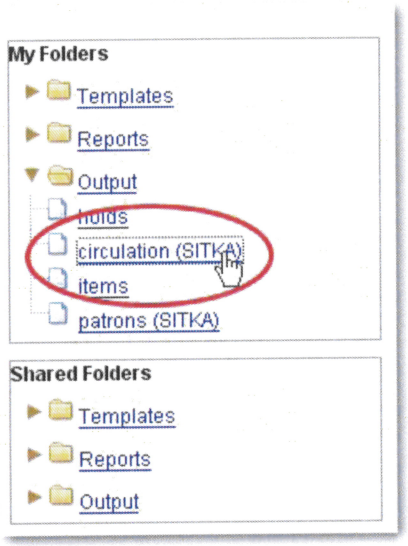


13. Click *OK*.

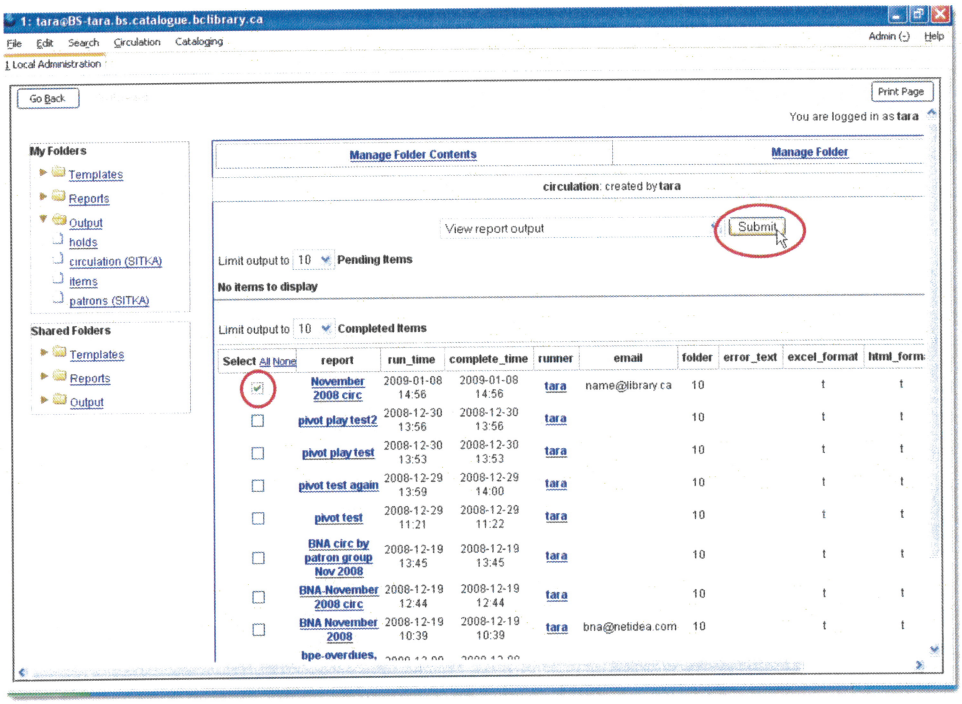


Step 3—Viewing the output

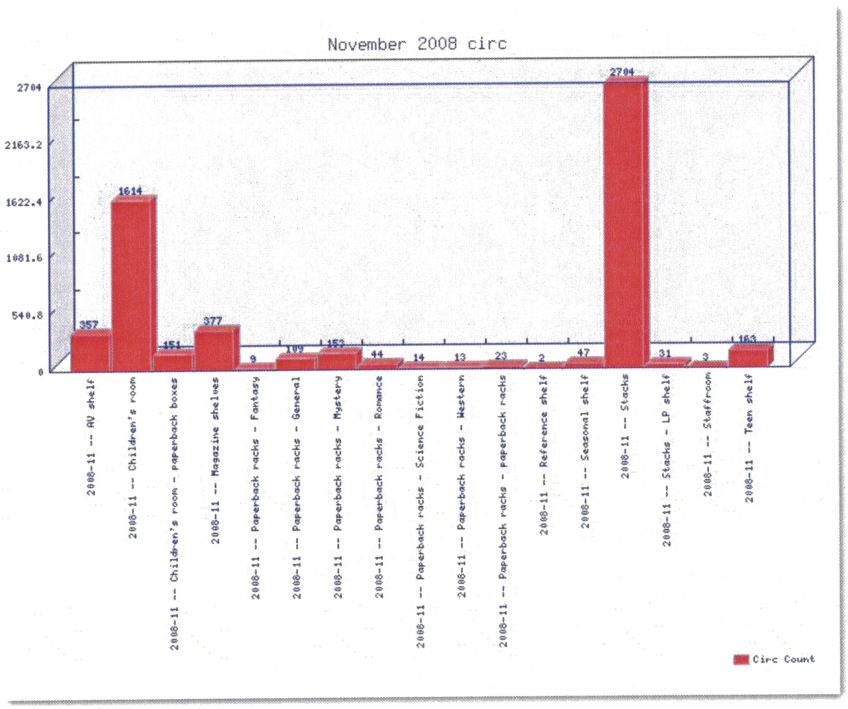
1. Under My Folders, expand the *Output* folder by clicking on the brown arrow or folder icon. To select the *circulation (SITKA)* subfolder, click on the blue underlined hyperlink.



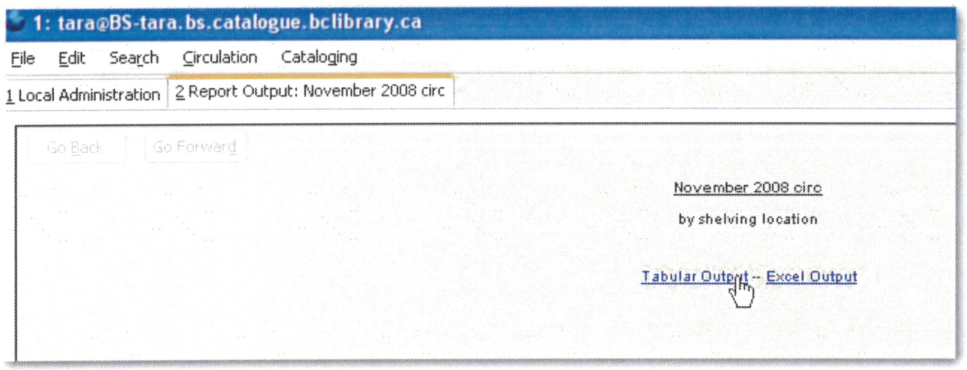
4. Select the *November 2008 circ* output. The default selection for the dropdown menu is *View report output*. Click *Submit*.



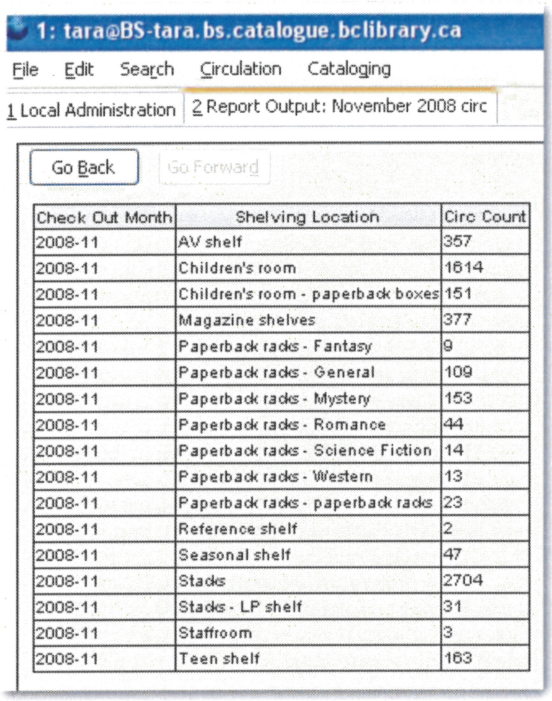
5. A new tab will open for the report output with the HTML output, which looks like this:



6. You can also select either *Tabular Output* or *Excel Output.*

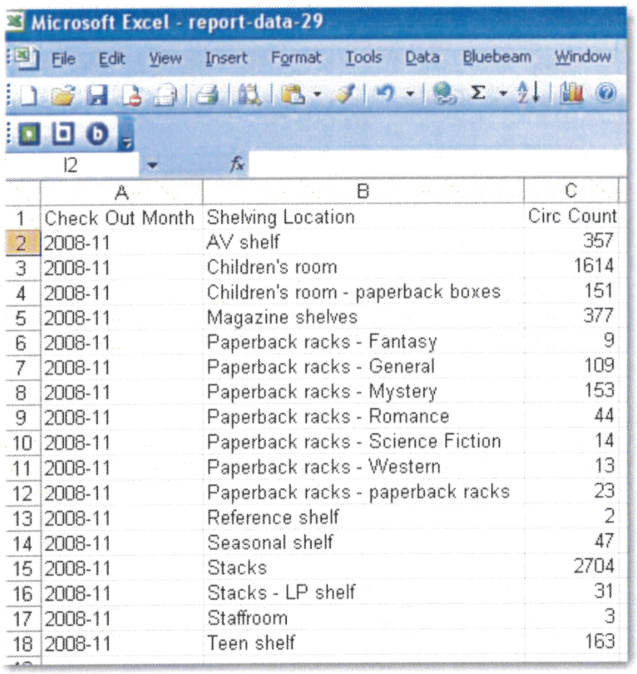


7. Tabular Output looks like this:



Check Out Month	Shelving Location	Circ Count
2008-11	AV shelf	357
2008-11	Children's room	1614
2008-11	Children's room - paperback boxes	151
2008-11	Magazine shelves	377
2008-11	Paperback racks - Fantasy	9
2008-11	Paperback racks - General	109
2008-11	Paperback racks - Mystery	153
2008-11	Paperback racks - Romance	44
2008-11	Paperback racks - Science Fiction	14
2008-11	Paperback racks - Western	13
2008-11	Paperback racks - paperback racks	23
2008-11	Reference shelf	2
2008-11	Seasonal shelf	47
2008-11	Stacks	2704
2008-11	Stacks - LP shelf	31
2008-11	Staffroom	3
2008-11	Teen shelf	163

8. If you want to manipulate, filter, or graph this data, Excel output would be more useful. Excel output looks like this in Excel:



	A	B	C
1	Check Out Month	Shelving Location	Circ Count
2	2008-11	AV shelf	357
3	2008-11	Children's room	1614
4	2008-11	Children's room - paperback boxes	151
5	2008-11	Magazine shelves	377
6	2008-11	Paperback racks - Fantasy	9
7	2008-11	Paperback racks - General	109
8	2008-11	Paperback racks - Mystery	153
9	2008-11	Paperback racks - Romance	44
10	2008-11	Paperback racks - Science Fiction	14
11	2008-11	Paperback racks - Western	13
12	2008-11	Paperback racks - paperback racks	23
13	2008-11	Reference shelf	2
14	2008-11	Seasonal shelf	47
15	2008-11	Stacks	2704
16	2008-11	Stacks - LP shelf	31
17	2008-11	Staffroom	3
18	2008-11	Teen shelf	163

Appendix A, & B

Compiled April 2009

- Appendix A: Data Types, Transforms and Operators (courtesy of PINES)
- Appendix B: 1.4 Updates

Data Types, Transforms, and Operators

The terms "data type," "transform," and "operator" are used throughout template creation; this section explains the meanings of these terms and lists available options for them.

Data Types

The term *data type* means exactly what it appears to mean; when a piece of data is stored, its data type indicates what kind of information it is. The data type tells the system how to treat the piece of information, and determines how that information can be used or viewed.

For example, when Evergreen needs to store a time, such as a checkout time for a circulation, it will store it as a *timestamp*. Timestamp is a specific data type that tells the system to treat that piece of data as a specific time, and indicate what options are available for interpretation of that data. The following listing covers the data types used by Evergreen.

bool

Bool is short for "boolean," this data type denotes that the field contains either "true" or "false."

int

Short for "integer", this data type denotes that the field contains a number. Occasionally, you will see fields that contain monetary amounts with this data type, however, usually *int* indicates that the field contains a number such as a patron's Claims Returned Count.

interval

Interval fields contain time intervals, such as "2 weeks" or "6 months." The recurrence interval for fines and the time limit for age hold protection are stored as intervals.

id

id fields are the unique identifiers that the software uses to distinguish database tables from one other; for example, each circulation that is recorded has an *id* that no other circulation record has. *Ids* look like numbers, but the *id* data type is treated specially by the software for determining how tables are linked.

link

The *link* data type is similar to the *id* datatype. *Links* look like numbers if you use them in a report's output, and are used by the software to link tables together.

money

Fields with the *money* data type contain monetary amounts, such as the amount billed to a patron on a billing line item.

org_unit

Short for "organizational unit", *org_unit* is a special data type. It can act like a link (for example, the Home Library field for a patron's record links that patron with his or her library branch) but it also lets you choose branches and systems from a list when you use a field of this type as a filter.

text

Fields with the *text* data type contain plain text – patron names, call number labels, and other strings of text are stored with this data type.

timestamp

Timestamp is a very important data type for reporting; it contains times in a very specific manner that the software can understand. Unless a transform is applied, timestamps aren't particularly friendly to look at; however, many transforms are available to make this data type easier to use for displays and filters.

Transforms

Transforms determine how data is interpreted when it is retrieved from the database. Each data type has a specific set of transforms available; some are more useful to computer systems, some are more useful for humans. The 'raw data' transform is available to every data type; it indicates that the data should be treated exactly as it is stored.

This section discusses the difference between aggregate and non-aggregate transforms and contains a listing of the transforms available in Evergreen.

Aggregate and Non-Aggregate Transforms

Most transforms are *non-aggregate;* non-aggregate transforms only present the data from a single row. On the other hand, *aggregate* transforms bundle data from multiple rows together.

For example, say you have a report that should present data from the following three rows:

```
Last Name | Claims Returned Count | Patron ID
Levine      3                       23923
Maddox      1                       43613
Smith       5                       43547
```

If you don't care about anything other than the total claims returned count, you can apply the aggregate transform *sum* to the Claims Returned Count. Since *sum* is an aggregate transform, the Claims Returned Count from all three rows will be presented in a single row in the output:

```
Claims Returned Count
9
```

On the other hand, if you apply a non aggregate transform, such as *raw data,* to the Claims Returned Count, each entry will appear on a different row in the output:

```
Claims Returned Count
3
1
5
```

Average

The *average* transform is an aggregate transform. When you apply this transform to a field, the output will contain the average value of the field from every database row that meets the filter criteria.

This transform is available for *int* and *money*.

Count

Count is an aggregate transform; it gives a count of all the fields found; in general, you should use *Count Distinct* rather than *count* to avoid unexpected results.

Count is available for *text, int, id, money,* and *timestamp.*

Count Distinct

Count is an aggregate transform; it gives a count of all the unique fields found; in general, you should use this transform rather than *count* to avoid unexpected results.

Count Distinct is available for *text*, *int*, *id*, *money*, and *timestamp*.

Raw data

The *raw data* transform presents the data exactly as it is stored in the database.

Raw data is available for all data types.

First Five Characters

This transform is non-aggregate and returns the first five characters of the text stored in a field. This transform is particularly useful for filtering or sorting ZIP Code fields.

First Five Characters is available for the *text* data type.

First Continuous Non-space string

First Continuous Non-space string is a non-aggregate transform. As the name indicates, it returns the first word (or string of numbers or characters) in a field.

First Continuous Non-space String is available for the *text* data type.

First Value

While not technically an aggregate transform, *First Value* presents one of many fields. It presents the value that was added to the database first. So, say you have a three patrons that were entered in the following order.

Last Name	Claims Returned Count	Patron ID
Levine	3	23923
Maddox	1	43613
Smith	5	43547

If you apply *First Value* to the Last Name field, it will return "Levine" since that is the oldest value for that field.

First Value is available for the *text*, *int*, *money*, and *timestamp* datatypes.

Last Value

Last Value is identical to *First Value* except that it returns the most recently added value rather than the one that has been in the database for the longest.

Last Value is available for the *text*, *int*, *money*, and *timestamp* datatypes.

Lower Case

Lower Case presents the text stored in a field as all lower case. So, if a field contains the text "Smith," the *lower case* transform would present that field as "smith."

Lower Case is available for the *text* data type.

Max

Max is another technically non-aggregate transform – it returns the *highest* value available, rather than the oldest or newest values that *first value* or *last value* return.

Max is available for *text, int, money,* and *timestamp.*

Min

Min is identical to *max* except that it returns the *lowest* value available from the database rather than the largest or highest.

Min is available for *text, int, money,* and *timestamp.*

Substring

Substring is an unusual transform; it only applies for filters, not for display fields. Say you want to get a list of every patron that has the letters "ith" in their last name; you could set up a filter on the Last Name field with *substring* as the transform and "Equal to" as the operator. Then, you could specify "ith" when you run the report and patrons with names like "Smith" or "Witherson" will be included in the output.

Substring is only available for *text*.

Upper Case

This transform presents the text stored in a field as all upper case; it is good for matching text fields if you don't know which case is used in the database.

Upper Case is only available for the *text* datatype.

Round

Round presents numerical data as the closest integer. It is available for *int* and *money.*

Sum

Sum is an aggregate transform that adds up the values of all applicable fields. Be careful not to confuse *sum* with *count* or *count distinct.*

Sum is available for *int* and *money*.

Age

Age presents a timestamp as the interval between it and the current date. For example, if today's date is November 10th, 2008 and a field contains a timestamp that was created on November 3rd, 2008, *age* would present that field as "0 mons 7 days 07:02:08.00186."

Age is only available for *timestamps.*

Date

This transform presents a timestamp as a human-readable date.

Date is available for *timestamp* fields.

Day Name

This transform presents a timestamp as the day of the week by it's name, such as Monday, Tuesday, Wednesday, etc...

Day name is only available for *timestamp* fields.

Day of Month

Day of Month presents a timestamp as the numerical day of the month; for example, a timestamp generated for January 19th, 2007 would appear as "19" if *day of month* is applied to it.

Day of Month is available for *timestamp* fields.

Day of Week

Day of Week presents a timestamp as the numerical day of the month. A timestamp generated for a Monday would appear as "1" if *day of week* is applied to it.

Day of Week is available for *timestamp* fields.

Day of Year

Day of Week presents a timestamp as the numerical day of the year. A timestamp generated for February 2nd would appear as "32" if *day of year* is applied to it.

Day of Year is available for *timestamp* fields.

Hour

Hour presents a timestamp as the hour for which it was generated, for example, a timestamp generated at 2:17 PM would appear as "14."

Hour is available for *timestamp* fields.

Hour of Day

Hour of day is identical to *Hour*.

Month Name

Month Name presents a timestamp as the name of the month, such as "January."

Month Name is available for *timestamp* fields.

Month of Year

Month of Year displays the numerical month; for example, a timestamp for February 15th, 2008 appears as "2" when *Month of Year* has been applied to it.

Month of Year is available for *timestamp* fields.

Months Ago

Months Ago presents the number of months that have passed between the time listed in the field and the time the report is run.

Months Ago is available for *timestamp* fields.

Quarter of Year

Quarter of Year displays the numerical quarter – for example, a timestamp for December 12, 2008 would appear as "4."

Quarter of Year is available for *timestamp* fields.

Quarters Ago

Like *Months Ago*, *Quarters Ago* presents the number of quarters that have passed between the time listed in a field and the time the report is run.

Quarters Ago is available for *timestamp* fields.

Week of Year

Week of Year displays the numerical week of a year (1 – 52) for which a timestamp is set.

Week of Year is available for *timestamp* fields.

Year

The *Year* transform displays only the year portion of a timestamp.

Year + Month

Year + Month presents a timestamp as the year and month, for example, July 31, 2005 appears as "2005-7" when this timestamp is applied.

Year is available for *timestamp* fields.

Operators

Operators describe the ways two pieces of data can be compared to one another and are used when creating filters to determine which database records should be included in a report.

Operators return TRUE or FALSE depending upon the result of the comparison; when an operator returns FALSE for a record, that record is not included in the output.

For example, when comparing two numbers, they can be *equal t*o one another, the first can be *greater than* the second, the first can be less than the second, or they can be *not equal* to one another.

The terms in italics describe possible comparisons that can be made between two numbers; these are the operators that are available when performing comparison operations to determine which data should be returned by a report.

Note that transforms are applied to fields *before* the operator is used to compare your parameter with each field. So, if you have a filter on patron first name set up with the *Uppercase* transform and *Equals* as the operator and you specify "MATTHEW" as your filter parameter, then a field containing "Matthew" will match.

Equals

Equals compares two operands and returns true if they are exactly the same.

Contains Matching Substring

This operator checks if a field contains a specific, case-sensitive substring

Returns TRUE if the field contains the exact specified substring.

Contains Matching Substring (Ignore Case)

This operator identical to *Contains Matching Substring,* except it is not case-sensitive.

Greater Than

This operator returns TRUE if a field is greater than your parameter. For *text* fields, this means ascibetically higher strings (for example "oranges" is *Greater Than* "bananas"); for *timestamps*, *Greater Than* can be thought of as "later than".

Greater Than Or Equal To

Greater Than or Equal To is identical to *Greater Than,* except it also returns TRUE when the field is equal to your parameter.

Less Than

This operator returns TRUE if a field is less than, lower than, earlier than, ascibetically before, or smaller than your parameter.

Less Than Or Equal To

This operator is identical to *Less Than* except it returns TRUE when the field is equal to your parameter.

In List

In List is similar to *Equals*, except it allows you specify multiple parameters and returns TRUE if the field is equal to any one of your choices.

Not In List

Not In List is the opposite of *In List* – it allows you to specify multiple parameters and returns TRUE only for fields that are not equal to any of your choices.

Between

Between requires you to specify two parameters and returns TRUE for fields that are between them (inclusive). *Between* is relative to datatype.

Not Between

Like *Between*, *Not Between* requires you to specify two parameters; it returns TRUE for fields that are *not* between your parameters.

Is NULL

Is NULL returns TRUE for fields that hold no data. It does not take any parameters. You should try to use *Is NULL or Blank* instead of *Is NULL* – there are some circumstances where fields may contain blank text strings, but for all intents and purposes hold no data – *Is NULL or Blank* behaves consistently for both situations.

Is Not NULL

This returns TRUE for fields that hold some data; like *Is NULL*, *Is Not NULL* does not take any parameters. However, you should use *Is Not NULL or Blank* rather than *Is Not NULL* for consistent behaviors when dealing with strings.

Is NULL or Blank

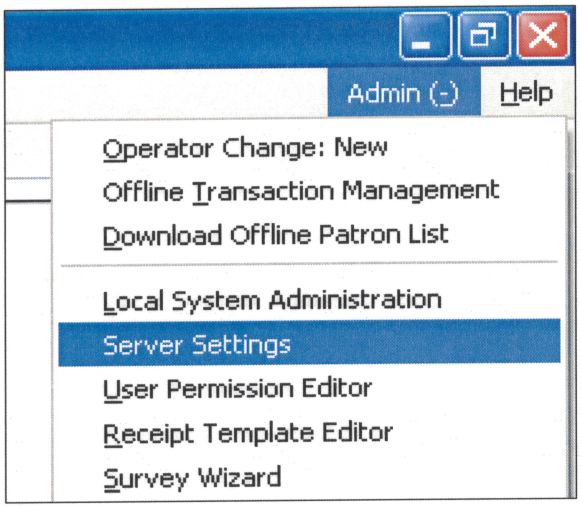
Is NULL or Blank returns TRUE for fields that either hold no data or do hold 'empty' data.

Is Not NULL or Blank

This operator returns TRUE for fields that hold some non-trivial data.

Server Settings (as of 1.4)

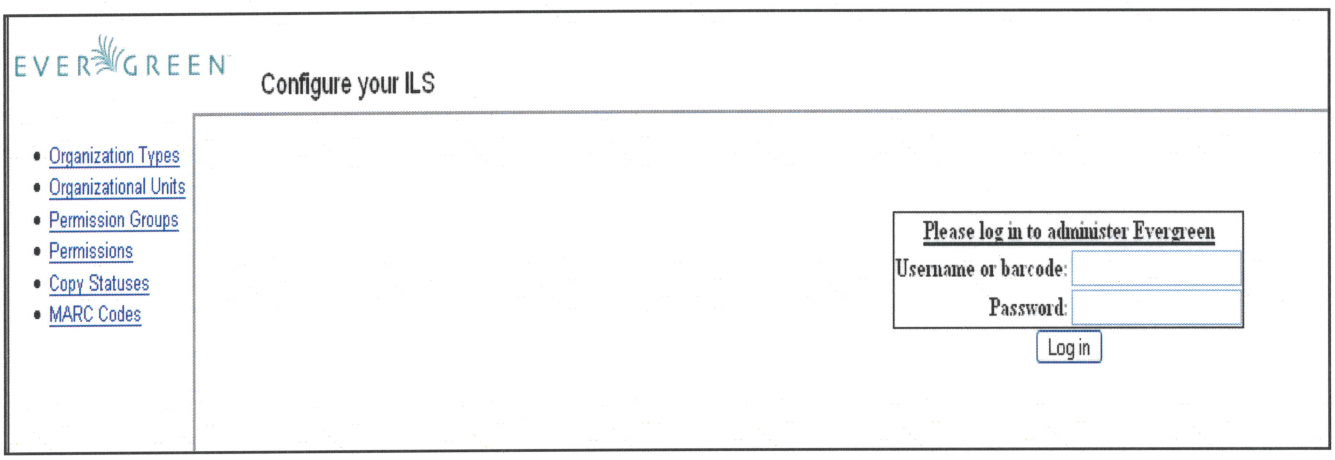
Server settings offer you the option of changing policies once only available via the bootstrapping interface on the server such as:



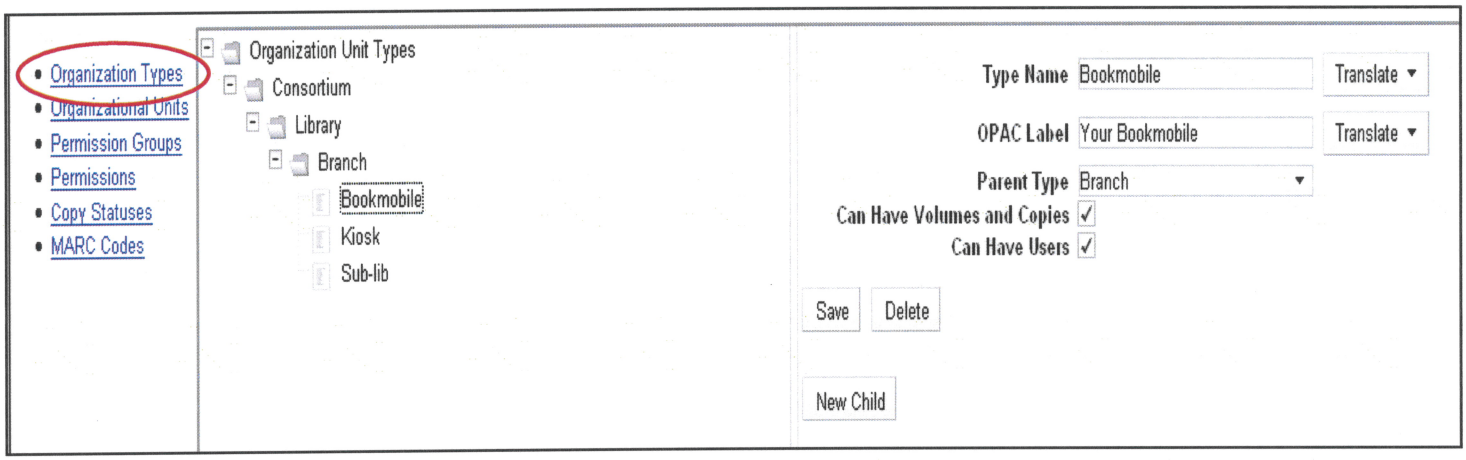
- Organizational Types & Units
- Permission Groups
- Copy Statuses
- MARC Codes

***NOTE**: More in database policies such as Circulation Modifiers, Circulation Rules, Holds Policies and Indexing Options will be added in the 1.6 and 2.0 versions of Evergreen.*

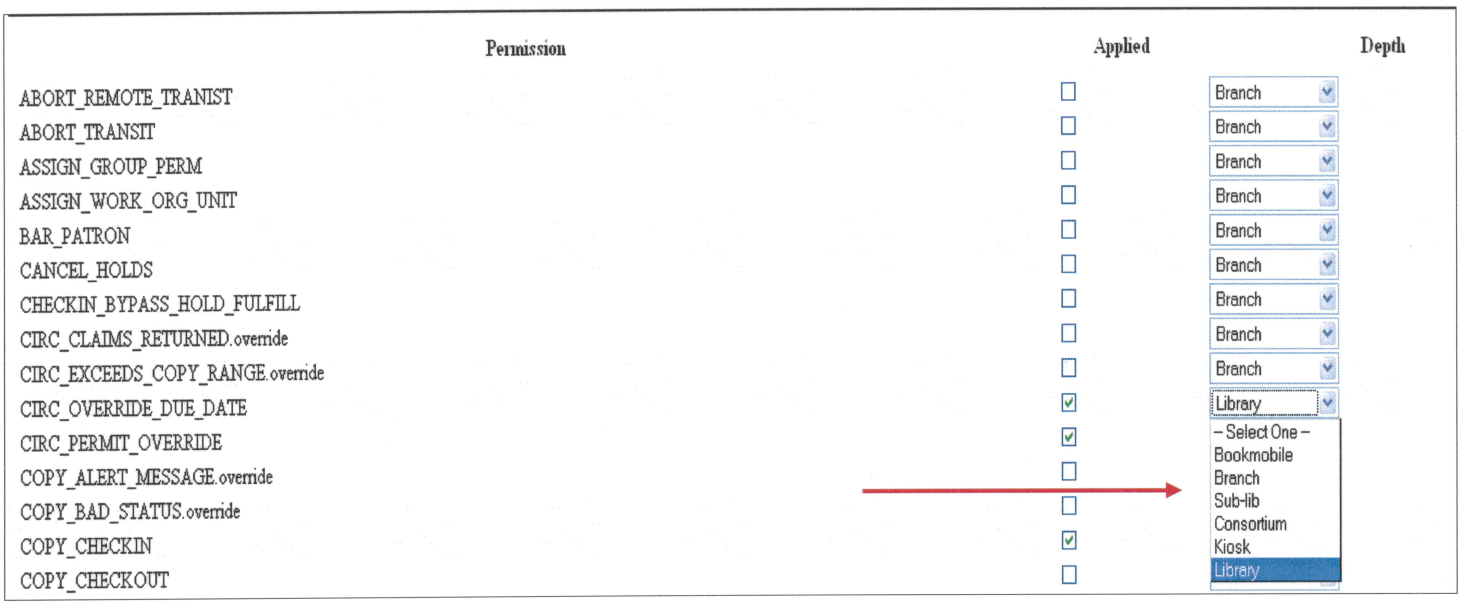
***Note:** Server Settings are protected by password.*



Organization Types

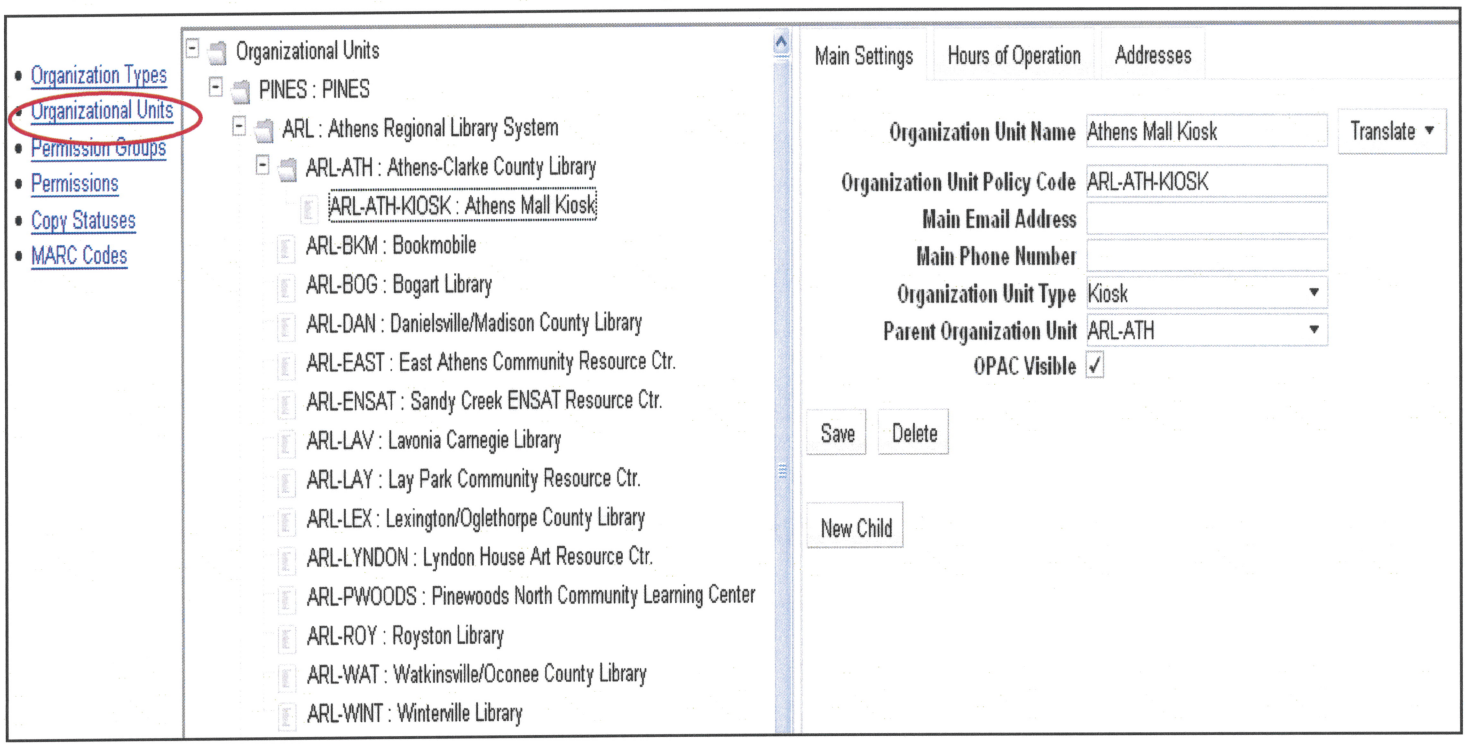


- The org types provide the skeleton used to create the organizational units or hierarchy that will be used for searching and policies.
- It determines at what level copies may be owned and at what level patrons may below.
- *Example above: All Bookmobiles, being defined as a sub-library of the Branch, may have volumes, copies and users associated with all organizational units associated with this type.*
- *Example below: Org Units appear when setting permissions to determine at what depth a staff member will have access to staff client functions.*



Organizational Units

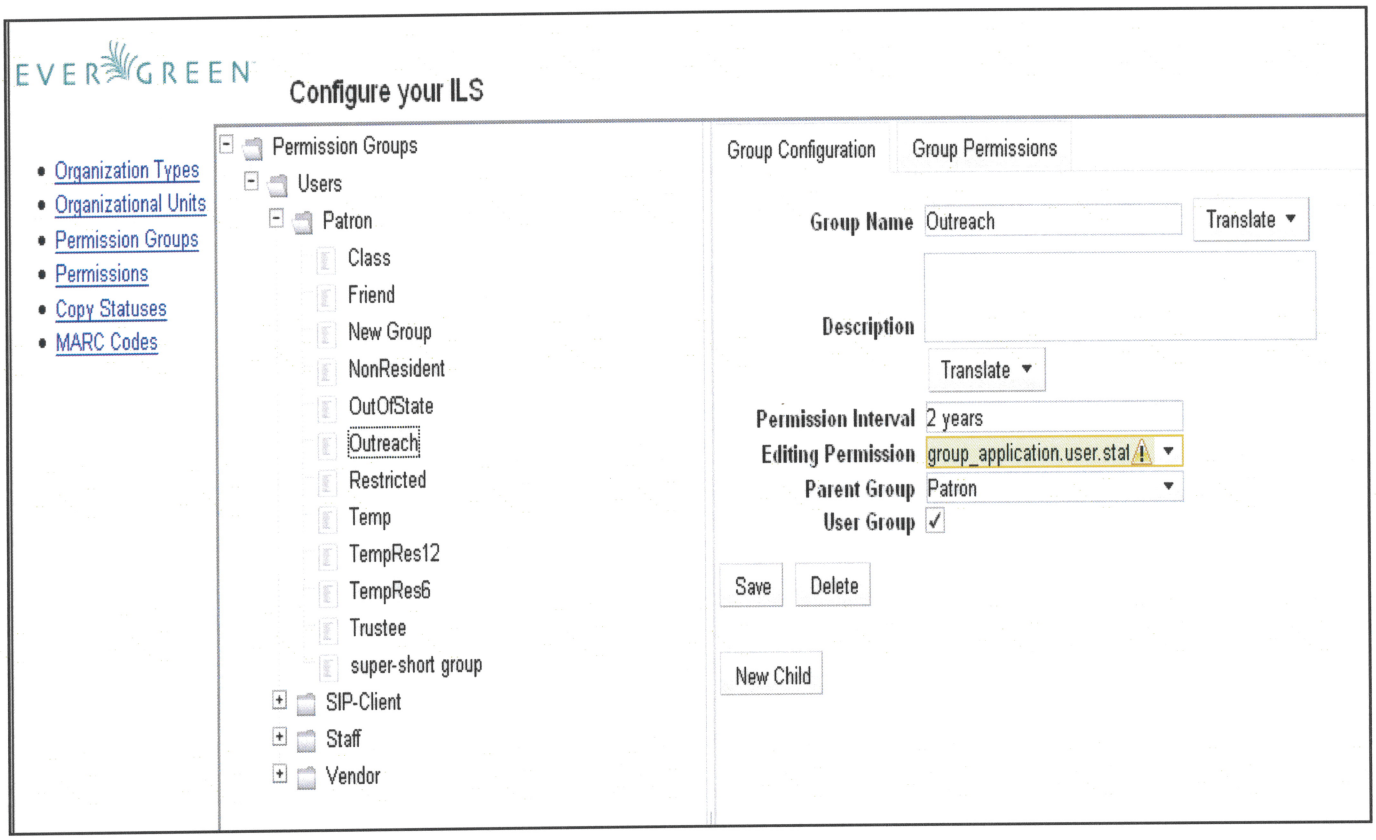
- Defines each library system, branch and sub-library available in your consortium.
- Defines hours of operation and address information for each physical library represented in the consortium.
- Defines the list of options patrons will see when narrowing their OPAC search to a specific library system or branch.
- Defines whether holdings for a particular unit are OPAC Visible.



***Note**: Includes the option to enter physical, holds, mailing and ILL addresses to be used within the system for notifications and reports.*

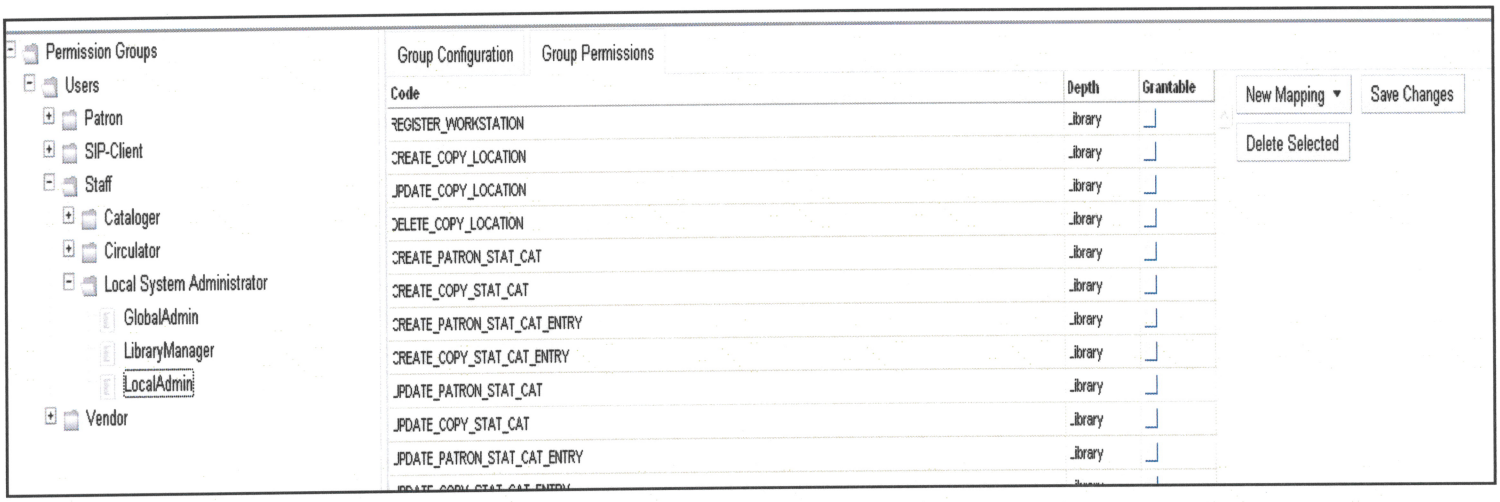
Permission Groups (aka User Groups)

- Defines user types, both patrons and staff, to be used system wide.
- Indicates the level of permission a patron will have for working in the OPAC.
- Indicates the level of permission a staff member has for working in the OPAC and Staff Client.
- The structure is used when registering patrons and in policies, such as the circulation and hold scripts.
    - *For example: Using the permission groups below, if there is a circulation rule that says "Outreach users circulate Books for 2 Weeks" that will be taken over a rule that just says "Patrons circulate books for 3 Weeks." It is more specific. Therefore, it is the rule applied before a more general rule.*



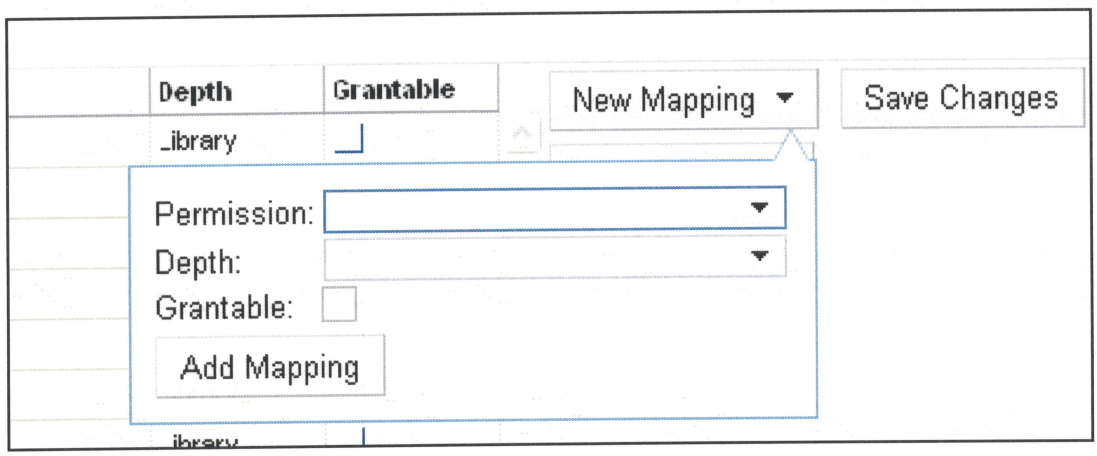
Permissions

- Permissions are assigned for each function and override present in Evergreen.
- The depth of a user's permission is also determined here.
- Whether a user (login) can grant permissions to another user is indicated with a check mark next to each permission.



Adding New Permission to a Group of Users

- From the permission group, click on the Group Permissions tab. Click New Mapping.



- Add the new permission using the drop down as well as the depth and whether the user can grant permission to other users and user groups.
- Be sure to click the Save Changes to save ALL changes made to the group permissions.
- Groups underneath another group will inherit the permissions of that group. For instance (see above): the Global Admin, Library Manager and Local Admin groups will all inherit the permissions of the Local System Administrator group.

Copy Statuses

- Define statuses to be used at the copy (barcoded item) level to indicate whether the item is available, checked out, at the bindery, damaged, etc...
- The copy status can also determine whether a copy is visible in the OPAC although this can also be selected at the individual copy level. *If OPAC visible is defined as NO at either the copy status level or the individual copy level, the item will not display in the OPAC.*
- The copy status can also determine whether a copy is holdable although this can also be selected at the individual copy level. *If Holdable is defined as NO at either the copy status level or at the individual copy level, the item will not be eligible to fill holds.*

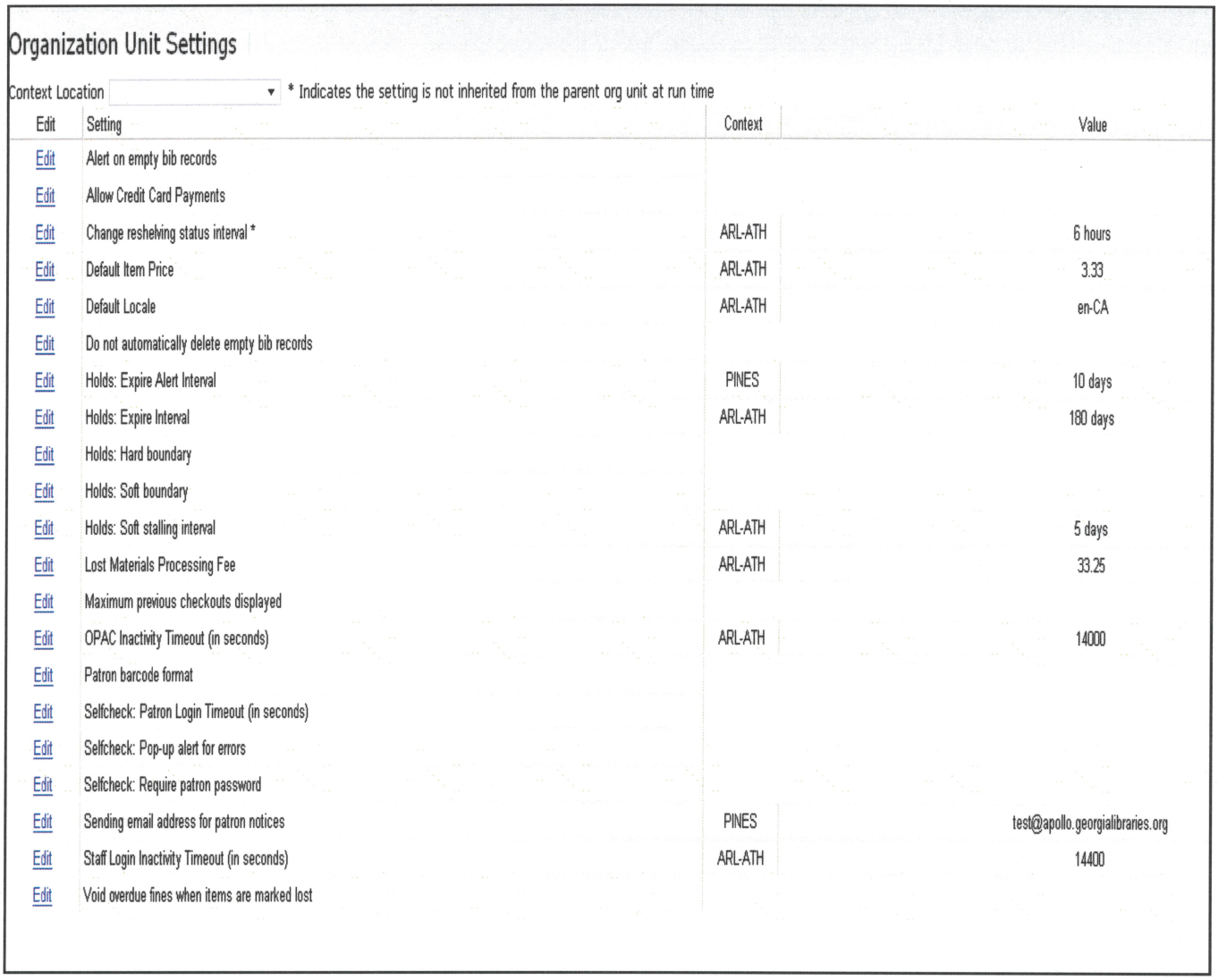
MARC Codes

- Determines which fixed fields codes are allowed for the following MARC code mappings:
  - Audience Map
  - Bibliographic Level Map
  - Item Form Map
  - Item Type Map
  - Language Map
  - Literary Form Map
  - Videorecording Format Map

***Note**: Many of these codes also get used as Search Filters in the OPAC and Staff Client, such as language and item form.*

Library Settings (as of 1.4)

- The following library settings have been discussed already on Page 10 of the Local System Administration document:
  - Lost Materials Processing Fee
  - Inactivity Timeouts for OPAC and Staff Client
  - "FROM" Email Address for Notices
- As of 1.4, new settings formerly on the server have been moved into the staff client and the Library Settings screen was updated.



Organization Unit Settings

Context Location ▾ * Indicates the setting is not inherited from the parent org unit at run time

Edit	Setting	Context	Value
Edit	Alert on empty bib records		
Edit	Allow Credit Card Payments		
Edit	Change reshelving status interval *	ARL-ATH	6 hours
Edit	Default Item Price	ARL-ATH	3.33
Edit	Default Locale	ARL-ATH	en-CA
Edit	Do not automatically delete empty bib records		
Edit	Holds: Expire Alert Interval	PINES	10 days
Edit	Holds: Expire Interval	ARL-ATH	180 days
Edit	Holds: Hard boundary		
Edit	Holds: Soft boundary		
Edit	Holds: Soft stalling interval	ARL-ATH	5 days
Edit	Lost Materials Processing Fee	ARL-ATH	33.25
Edit	Maximum previous checkouts displayed		
Edit	OPAC Inactivity Timeout (in seconds)	ARL-ATH	14000
Edit	Patron barcode format		
Edit	Selfcheck: Patron Login Timeout (in seconds)		
Edit	Selfcheck: Pop-up alert for errors		
Edit	Selfcheck: Require patron password		
Edit	Sending email address for patron notices	PINES	test@apollo.georgialibraries.org
Edit	Staff Login Inactivity Timeout (in seconds)	ARL-ATH	14400
Edit	Void overdue fines when items are marked lost		